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ORIGINAL ADDRESS.

THE RELATION OF EYE-STRAIN TO GENERAL MEDICINE.[1]

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LADIES AND GENTLEMEN: In response to your kind invitation to speak to you concerning some of the relations of Ophthalmology to general medicine, I have chosen one aspect of the subject that is at once most neglected, least understood, and important—to me, indeed, the most important. Other subjects may be more interesting, promise more brilliancy of treatment, or illustrate better one's special knowledge, but in your practice you will have a hundred cases of eye-strain to one of optic neuritis; a hundred of anorexia and malassimilation due to ametropia, to one of contraction of the field of vision; a hundred of nervousness and hysteria to one of hemianopsia or albuminuric retinitis. Moreover, without special training you will not be able to diagnose pathological changes in the fundus of the eye, whilst the recognition of an irritational eye-strain is relatively an easy task.

The essence of what I shall say to you to-night will consist simply in pointing out a few classes of patients, to whom, if you do your duty, you will say, "Go to the oculist." Upon my part this may seem to you a bit of somewhat cunningly selfish advice; but I protest that the matter has certain very unselfish phases, and must, by both of us, be taken very seriously. I have, truly, had in my practice hundreds of patients who have had years, and even a life of daily anguish, because their physicians had not known enough to give them this advice.

The moral of my sermon, therefore, is that eye-strain is an enormously frequent, fertile, and unsuspected source of non-ocular disease. I beg of you not to let any long-eared prejudice blind you to this fact. Fact it is, and he who soonest recognizes it will do himself the more honor and the world the more good. I purpose speaking directly and solely from my own experience, and no fact has been so frequently and emphatically borne in upon me by every day's practice as that eye-strain is a great promoter and producer, first of functional systemic disease, and even, finally, indirectly of organic disease. And the correlate of that truth is this other, that the general physician makes no more frequent and bitter mistake than his indifference to or ignorance of it. To help you to avoid such errors let us try to answer these questions:

1. What is eye-strain?
2. What is its etiology?
3. How is it diagnosed?
4. What are its effects?

This is in accordance with the wise, old advice, that prior to curing an evil we must know its nature, cause, extent, and results.

The term eye-strain is usually applied to the irritational incoördinations and abnormal exertions of the intra-ocular or extra-ocular muscles. The function of the eye is to form a perfect image of an object upon the retina in precisely the same way as a photographic camera does upon the sensitive plate. Strain arises when the eyeball is abnormally long, short, or curved, or when the muscles are not dynamically balanced. The term may be applied to the results of abusive use of the perfect eye, but that is not the common meaning. As defined above, the words need two criticisms. The first relates to an extension of the meaning so as to include nervous and centrally located phenomena. As commonly used the emphasis—indeed, the sole thought—concerns the muscles. But, the simple muscular overuse or strain is, if not entirely absent, at least often, and, I doubt not, generally, a small factor. Where else in the body does one find undue muscular exertion producing such effects as are the rule in eye-strain? The nearest analogy of so hard-worked a set of muscles consists of those implicated in scrivener's and piano-player's palsy. But the ciliary muscle is more over-worked than the muscles of the hand, whilst the effects are dissimilar. In other parts of the body you may have exhaustion, paralysis, localized soreness, myositis, etc., but never the mental, cerebral, and distant reflexes that are the rule in eye-strain. This is an indication, proved by other considerations, that the central neural, or cerebral, elements are predominant, and that the muscular element *per se* is subordinate and *post hoc*. Failure to see this has led to the woful error of those extremists who cure all the ills that eyes are heir to by tenotomies—graduate and undergraduate. It is, indeed, a noteworthy fact that the patient complains little or not at all of ocular symptoms. In

[1] An address to the Philadelphia Hospital Medical Society, July 9, 1890.

the greatest eye-strain the patient will heartily aver that the eyes themselves are perfect, and give no trouble. There are no pains, no soreness of muscles, no local symptoms whatever. This is an anomalous and interesting, but genuine, fact. I have partially tried to explain it elsewhere, and must pass it by at this time.

The second criticism refers to the origin of insufficiency, or lack of muscular balance in the external muscles. It is too commonly supposed that this is, as it were, congenital, or a positive cause of eye-strain. But it is certainly usually true that the insufficiency is a mere consequence of the ametropia. Correct the latter, and the muscle equilibrium is generally soon restored. Tenotomy, before a lengthy trial of this procedure, is no less than surgical barbarism. This, indeed, is a corollary of the fact that the insufficiency is a phenomenon of nerve centres and nerve forces, rather than of strengths or strains of muscle fibre. The acknowledged etiology of much insufficiency is the disturbance produced by ametropia of the normal relation between accommodation and convergence. But, this is patently a nervous phenomenon, pure and simple. The muscle chiefly strained in eye-strain, if any, would assuredly be the ciliary muscle. But, despite the Herculean tasks and torsions it often has to undergo, it does not from these causes inflame, is not paralyzed, or weakened, but actually develops *de novo* a new set of fibres, almost a new muscle, called the Müller ring-muscle. Thus, from a variety of considerations we conclude that in eye-strain we have chiefly to do with nervous, not muscular forces. The facts to fix attention upon are dynamic, not static; neurological, not muscular; central, not peripheral.

As to the ametropia that produces eye-strain, it is almost entirely limited to two varieties, hyperopia and astigmatism. Simple myopia, unless widely differing in degree in the two eyes—anisometropia—produces no eye-strain. For other reasons it may be well to correct near-sightedness, but when you are simply trying to establish a differential diagnosis, you may be assured that if your patient is myopic to only a moderate degree, there will be no reflex neurosis for you as a general practitioner to combat. The danger from following this rule consists in the easy and terrible blunder made by opticians every day, of mistaking a so-called spasm of the accommodation, an astigmatism, or even a high degree of hyperopia, for myopia. As general physicians, however, you will not thus ruin eyes, because you will not prescribe spectacles.

Let us now examine more closely the mechanism whereby hyperopia and astigmatism produce eye-strain.

When the eyeball (antero-posteriorly) is too long—or, what amounts to the same thing, when the refracting powers of the ocular media are too strong—the natural focus of the entering light-rays is in front of the retina. This condition constitutes *myopia*, and from the above explanation it becomes evident that there can be no strain, since the effort, if one may so speak, is to reduce strain. There is already too much refraction, and hence there can be no strain by the eye in attempting to overcome the condition. The rays need to be further dispersed, not more gathered together, and it is the greater gathering that requires an expenditure of nerve or muscular force.

When the eyeball is too short (or the media too weak in refractive power) the retina is in front of the natural focus, and the accommodative apparatus is put to an excess of effort to bring the focus forward, so that it shall be upon the retina. This is hyperopia. All good definition, as the photographers say, depends upon an accurate focalization of the rays from an object, whether upon the sensitive plate of the camera or upon the retina. In hyperopia the definition is only obtained by unceasing over-exertion. It is a Sisyphian task. The focus slips back from its proper position with every instant of inattention. When the object is near, as in reading and writing, the need of greater refracting power is increased or multiplied. This is because rays from near objects are more divergent than from more distant ones. Hence the greater strain in this condition, from near work, and the more marked increase of the whole train of pernicious symptoms when the hyperopic eye is forced to undertake it. The eye being naturally hyperopic, the task set for it by civilization becomes the more glaringly contrasted and severe. Upon the principles of American politicians the oculists and opticians should erect the highest statue in the world to the inventor of printing.

Suppose, now, the cornea unsymmetrical, that is, unequally curved in different meridians, like the bowl of a spoon, the rays of the entering beam of light will be brought to a focus more quickly in the more curved meridian, and the retinal image proportionally blurred. This is *astigmatism*, and, of course, may complicate either myopia or hyperopia. If coexisting with hyperopia it produces the greatest strain.

We understand this by remembering that the ciliary muscle is a sphincter muscle, normally acting equally upon all sides by a common innervation. But with astigmatism, this muscle, or the central nervous system controlling it, seeks to neutralize the effects of the corneal asymmetry by unequal contraction, or excessively straining certain fibres in such a way as to cause the lens to react upon the traversing rays, so as to counteract the unequal influence of the corneal asymmetry. This action of the ciliary muscle

is unphysiological, and as is readily seen, productive of a peculiar irritation.

Besides myopia and hyperopia, complicated or not with astigmatism, we may have presbyopia superadded. This consists of a growing inelasticity of the crystalline lens, or failure in the power of accommodation, which, increasing all through life, reaches in emmetropic eyes such a degree, at about forty-five years of age, that the artificial help of biconvex lenses is required for near work. If hyperopia be also present, presbyopia becomes apparent earlier, and proportionally to the amount of such hyperopia. If myopia be present, then presbyopia comes on so much later.

In passing it may be asked why hyperopia and astigmatism, or eye-strain, seems so much more frequent now than formerly. The answer is clear, but apparently contradictory. It is this: hyperopia and astigmatism are probably less common now than ever before, and yet the direct result of these same defects, that is, eye-strain, is immensely more common. The explanation of this paradox is that the eye of animal, savage and child, is naturally hyperopic. Up to the present century the work of the eye has been adapted to the mechanism. But now, printing, schools, cities, sewing and commercialism have suddenly given the eye tasks for which it was never made, or to which it was never habited. The deity of natural selection never foresaw civilization. Great interest attaches to the inquiry how the eye is to react and adapt itself to meet the duty thrust upon it. One fact is evident: when the recognition of the enormous body of ill-results from eye-strain finally succeeds in battering down professional and popular prejudice, spectacles will be almost as common as noses. Nearly every one would be the better, intellectually, morally and physically, from the proper use of proper spectacles. There are extremely few emmetropic eyes. If from his occupation the farmer may be able to do without correction of ametropia, the farmer's child, if he goes to school, will not be able to do so. The greatest good of spectacles will be prophylactic. Thousands all about us are to-day suffering multiform and irremediable injury, directly or indirectly, because of unsuspected eye-strain. The day will sometime come when a conscientious parent will never permit a child, however apparently healthy, to grow to puberty without a scientific examination of the eyes having been made, and repeated at intervals thereafter. The consequences of eye-strain are so subtle, so varied, so remote, so peculiar, so unforseeable, and so harmful, that only by this plan can they be obviated.

How is the existence of hyperopia and astigmatism to be diagnosed—their existence, I say, not their amount? That either exists to a harmful degree is all you desire to know, but knowing this you also know that, until corrected, it is a permanent source of mischief, and that all remedies other than spectacles are palliative or useless. Many plans are advocated, but every one is objectionable. I take it for granted that you will not use the ophthalmoscope. For twenty years the general practitioner has been urged to do so, and for twenty years medical students have bought instruments that they never used after "swinging their shingles to the breeze." I think their advisers gave bad, or at least useless advice. To use an ophthalmoscope properly requires much and continuous practice. The general practitioner soon finds he has not the time nor the patience, and the specialist who can do it better is close at hand. Whether the growth of specialism generally be for good or bad, it is quite certain to grow, and ophthalmology, of all the specialties, has always been pointed to as a model. The wise man accepts and makes the most he can of the inevitable.

Retinoscopy is a popular fad among my brethren: my advice to you is that you would better let *us* make mistakes with it. If you try to rely upon it you will utter either many falshoods or many objurgations—probably both. Proficiency in its use, as in that of the ophthalmoscope, requires special aptitude and training, and I do not believe that it is to be relied on as an accurate method even in the hands of its best friends.

Of many devices I shall recommend but one to you. Get two differently lettered cards of Snellen test-letters for distance, and hang them in your office, in a good light, fifteen or twenty feet from your patient. With every patient complaining of headache, neuralgia, or dyspepsia, with nervous, hysterical, choreic or anæmic symptoms, test accurately by one card, each eye separately, the ability to read. Keep a record of the lines read in each case. Then paralyze the accommodation with a six-grain solution of homatropine. Half a dozen instillations within three-fourths of an hour are sufficient, but it will be better to give the patient the drops, to be used every hour for a day. When he returns in one or two days, if the headache has in the meantime been better or has disappeared, you may be quite sure you have an eye-strain reflex. This, in fact, is the best method of differential diagnosis between headache due to eye-strain and that due to other causes. Since the great majority of all headaches is due to eye-strain it is a point worth bearing in mind. But now, when your patient returns with thoroughly functionless accommodation, you will retest the acuteness of distant vision, using a different test-card, to avoid the error arising from remembrance of the other letters. If this acuteness is markedly less than it was before using the mydri-

atic, that is, if only larger letters can now be read, you are convinced that hyperopia or astigmatism, or both exist. The amount of the defect is roughly estimated by the extent to which the visual acuity has fallen off. If originally normal, *i. e.*, if the twenty-foot line was read with each eye, and after paralysis of the accommodation it remains the same, you have a rare case of emmetropia. If originally subnormal, and after the mydriatic it remains the same, you have simple myopia. If you wish to tell whether the diminished acuity is due to hyperopia or to astigmatism, you can do so roughly by an astigmatic test-card. But this is a dangerous road, and for your purposes, one that you do not have to travel.

This plan seems to me the simplest and easiest of all for ascertaining the existence of eye-strain. It may be relied on absolutely, it demands no special training or superfine observation, no costly instruments or appliances. It tells you precisely what you need and want to know, and with little or no trouble. You should remember to warn your patient of the symptoms of mydriasis. Moreover, do not forget that with patients over fifty years of age, Time, that conquers all things, has pretty effectually paralyzed the accommodation, and other mydriatic is unnecessary. Before this age pathological reflexes have mostly subsided.

There is one aspect of this question that we must not overlook: How much lessened acuity, or how much hyperopia or astigmatism is sufficient to set up eye-strain and pathological reflexes? This depends entirely upon two things, the nature and the occupation of your patient. If the patient be one of civilization's hot-house plants, a neurotic, sensitive, nimble-witted girl, the smallest defect is sufficient to play havoc with such a quivering bundle of nerves. If with such a case there is the slightest falling off of distant acuity under the mydriatic, if the same line of the test-type cannot be read just as easily, pack her off quick!

Between such a case and the rugged, phlegmatic out-of-door-living farmer there are a thousand degrees to tax the best judgment of the best oculist as to what to do. In general the young have less "leeway" than the older, girls and women less than boys and men, the educated less than the uneducated, those doing much reading, writing, sewing, or other near-work, less than those not so busied. A farmer can safely carry for a lifetime five or ten times the defect that a city girl could endure for only a day.

One word more, despite your smile. Never send or allow your patient to be prescribed for by an optician. This disgrace to medicine and sin against humanity should be forbidden by law. Ruined eyes and inexpressible sufferings daily turn up in every oculist's office as the direct result of this execrable habit. If the oculist's fee is frightful, there are in every hospital ophthalmic departments where outpatients may be treated, free of charge, by competent hands.

I fear I have left myself too little space to speak of the essential or vital part of my subject. The heart of the whole matter is as to the effects of eye-strain.

These may be divided into two chief classes, those limited to the eye itself, and those presenting systemic or extra-ocular results. The first class concerns particularly the ophthalmic specialist, but it is well to note them as we pass by. Some of them serve as pointers, or clear indications of the ametropia. In children, especially boys, styes, blepharitis, and conjunctivitis, often mark the deep-seated trouble. The most common ocular symptom is accommodation-failure. The ciliary muscle temporarily relaxes under the strain, and the words of the printed page blur, and run together, and the eyes must be closed for a moment. Such failures occur more frequently if near-work be persisted in, and may be accompanied with conjunctival injection, pains, flow of tears, spasmodic blinking, or "tic" of the lids, face, etc. Among the organic changes produced by eye-strain is myopia. This may sometimes be caused by changes induced by ametropia, whilst insufficiency and strabismus are almost certain proofs of this cause. A still more profound injury is one that I have pointed out to the profession — a chronic macular choroido-retinitis, with pigmentary changes about the posterior pole, lessened visual acuteness, etc. Thus the eye itself may be irremediably injured by uncorrected eye-strain. It is not true that so long as none of the palpable symptoms appear the condition of the eyes may be ignored. Many of these symptoms are so subtle as not to be noticed until the disastrous result is accomplished. It is doubtless true that eye-strain plays an etiological *rôle* in the production of cataract.

Turning now to the more widespread systemic abnormalism and disease produced by eye-strain, we are struck by the awful, discouraging, exasperating slowness with which even the most glaring consequences are ignored, with what intolerable difficulty this knowledge pounds its way through prejudice and ignorance, both lay and professional. Take headache as the best example. The "common people" are to-day more alive to the fact of its true causation than their doctors. Most medical articles on the subject, and books on practice, either ignore the eye-strain or allude to it as a minor factor. The fact, of course, is that it is far more frequently the cause than all others put together. I do not doubt that ninety cases out of one hundred are due to eye-strain In my first series of one thousand refraction cases in private practice a chief complaint in more

than eight hundred was of headache. The failures to cure or greatly relieve were not over half a dozen. Eye-strain headaches, or neuralgias, as they are sometimes called, may usually be diagnosed by the following considerations:

1. The patient, nine times in ten, is a girl or woman.

2. In the great majority of cases the patient locates the pain in the forehead or temples, or says it starts there.

3. If the headache is not continuous it is usually brought on or made worse by near-work—is greater, for example, during the school season than in vacation, during school-hours than holidays, etc.

4. The headache is frequently associated with anorexia, fickleness of appetite, malassimilation, or some other digestional abnormality, all these being common eye-strain reflexes.

Sick-headache, there can be little doubt, is very often, if not generally, due to eye-strain, though it, like any other functional abnormality, may not be quickly curable by stopping the cause after continuance for half a lifetime.

Fits of nausea and vomiting are not infrequently produced, and I have now had six or eight cases of pronounced "car-sickness," which never returned after getting spectacles. I had one patient last week who was intensely sick with vomiting, dizziness, etc., for twenty-four hours following every street-car ride. She walked twenty squares to see me. I sent her home, with paralyzed accommodation, upon the street cars, without a return of the usual effects. One wonders if sea-sickness is not more or less connected with ocular functions. A physician wrote me from the West that he could produce giddiness and nausea in himself by rolling his eyes upward in a peculiar manner. One of my patients can read without trouble while sitting up, but gets sick at his stomach at once if he reads lying down.

But the cerebral evidences of irritation and disorder, however marked and clear, are of less importance than others that strike at the nutrition and welfare of the whole organism. The war must be carried into Africa! *Delenda Carthago!* Despite all disbelief, prejudice, and the smiles of superior wisdom, it is my well-proved and deep-rooted conviction that eye-strain very frequently produces digestive troubles of various kinds, all resulting in malnutrition. Those who ten or twenty years ago preached the ocular origin of headache, encountered the same wall of prejudice as one does now in reference to this aspect. I shall not attempt to explain the mechanism of this reflex neurosis, that of any such reflex is not wholly clear, but it is certainly as easily understood as a metastatic orchitis in mumps. Whether understood or not, if you will bear the fact in mind you may save yourself much vexation and your patient much suffering by testing the eyes of many an anæmic, nervous, dyspeptic girl, whose trouble you cannot account for or cure. I have had very many such patients freshen up at once upon getting spectacles, and in a month or two gain ten or twenty pounds in weight, without any medicine, and after years of other treatment. It seems at first sight the extreme of absurdity to say that anæmia may be due to eye-strain, yet such is the fact, because nothing can shake my conviction that malnutrition may be caused by it, and anæmia is only the consequence of persistent malnutrition. In girls and young women with severe eye-strain, fickle and poor appetite is almost always an emphatic complaint. Their mothers nickname them "pickers." I know well enough the tricks of *post hoc propter hoc* logic, but if such patients return in a month or two with better health patent in every feature, and now eating three meals a day, I trust my conclusions. The iron on their noses in the form of spectacle-frames has done the red blood-corpuscles more good than it would have done in pills.

It is by thus producing continued anorexia and malnutrition that eye-strain may indirectly lay the foundation for other evils that else had not existed. The headache, hyperæsthesia, or nervous exhaustion, brings the organism just to such a degree of weakened vitality that further resistance is impossible, and the upspringing of latent or inherited diseases of many kinds and of differing degrees of fatality is permitted. No lesson is more clear now-a-days than that disease germs find a nidus only where vitality is subnormal.

Two indirect proofs of the power of spectacle lenses to prevent these results are at hand: First, put a pair of spectacles before your normal eyes that will create an eye-strain such as others have without glasses. Headache, dizziness, and vomiting will in a few hours teach a very practical lesson. Second, note this: A spectacle gets broken, and in twenty-four hours the patient returns with a terrible recurrence of the old but long unknown trouble, the headache, the nausea, the unrest, etc. If an astigmatic lens gets bent a small fraction of an inch out of its proper place, there is the same phenomenon. A visit to the optician is all that is needed.

All the reflexes of eye-strain are primarily phenomena of increased nervous action. They are peculiarly central in character, and may perhaps be considered as a struggle of the ocular and optical centres to translate into sensations imperfect retinal stimuli or optic-nerve messages, as well as to react upon the eye itself so as to perfect its function. With hyperopia and astigmatism present this becomes an irritating and harassing labor, disturbs the equilibrium of the cerebral centres, and liberates large excesses and incoördinations of nerve force.

These unregulated discharges overflow the normal outlets, and produce results varying according to the somewhat accidental routes, and the commissural fibres over which the superabundant discharges pour upon centres incapable of resistance. If the phrenic-nerve centre is flooded, the diaphragm is stimulated to excessive action, and vomiting or other disturbance follows. In connection with this I may mention the case of one of my patients, Mrs. G., who had suffered for twenty years with a persistent and harrowing flatulent dyspepsia, for which many physicians had been consulted, and limitless quantities of medicine had been taken. I speak advisedly when I say that the minute proper glasses were applied the frightful eructations and discomfort stopped. If the glasses are left off a minute or two the diaphragm begins its spasmodic action. If the innocent overflooded centres happen to be inhibitory centres the results are in accord with the function of those centres. Possibly the digestive torpor and malassimilation are explainable as an unregulated stimulation of the pneumogastric. I reported a case last year in which violent rapidity of the heart's action came on with outrageous abuse of hyperopic eyes, and persisted despite all treatment until correcting spectacles were found, then suddenly subsided. Another noteworthy illustration was that of Miss U., who had suffered from periods of aphonia for years. The mydriatic brought the voice back, and the glasses have assured the cure. I have had several cases of non-appearance of menstruation, amenorrhœa, and dysmenorrhœa, in which the proper function was established at once upon the use of spectacles. Two patients had periods of partial paralysis and anæsthesia of the limbs prior to coming to me. These instances of derouted reflex action are characterized by appearing at more or less regularly recurring periods with increasing headache and sometimes with "blind-spells," or other ocular symptoms.

Generally speaking, the excess of irritational stimulus results in positive overstimulation of motor centres. In a large class it will manifest itself as a diffuse abnormal activity. The child or young person is simply "nervous," restive, cannot keep still, will not stick to studies, etc. If the derouted reflex take more specialized channels certain muscles or groups are acted upon, and simple chorea follows. One girl wore out the right shoe in a few weeks by excessive scraping of the foot. A boy was always snuffing or making grimaces with the lips. Tics of the cheek muscles and jerking of the hand or arm are also met with. I have had quite a number of cases of pronounced chorea cured at once by correction of ametropia. I have had no experience with epilepsy or insanity. If I had a case of *petit mal* I would try prolonged mydriasis. Very frequent symptoms of eye-strain are insomnia and night-terrors. The child rolls, cries out in its sleep with fright. The surcharged cerebral centres after the day's warfare are for a long time unable to reach a condition of normal equilibrium. I have more than half a belief that enuresis may sometimes be traceable to the same irritation.

It may be thought that the reports of many of such cases as the above are to suffer revision in the light of one error common to all—hysteria. The old pianoforte tuners swept all the discords into one octave that was called *the devil*, and this was avoided as much as possible in playing. There was a time when, whatever was not understood, or not easily curable in female nervous disease, was called hysteria. It was a convenient cover for professional failure in therapeutics. I have no doubt that many, very many such cases needed, and still need, a pair of proper spectacles, instead of sneers and pilulæ asafœtidæ.

One final illustration and I have done. The common-school system as now carried on is largely responsible for a deal of suffering such as I have described. Children are forced to needless and unhealthful study, and manufactured into sorry examples of intellectual *pâte de foie gras*, namby-pamby mimics and memorizers when they should be in training to make of them healthy young animals. Under this system of over-pressure and sham education the civilized eye, like many another product of civilization, is a poor and pitiable thing. Its little possessor, sadly unconscious of what is the matter, goes on with high pressure, and ambition, and tonics, until one after another the strings of life snap under the high tension. If not so, he finds study becoming irksome, and the parents grieve as they painfully watch intellectual capacity slowly and persistently renounced and life shunted into the world's humdrum and routine. Eye-strain has thus derouted many a natural genius, subtly turning him from intellectual culture to physical but less painful outlets for his activity.

The multiformity and apparent exaggeration of the effects of eye-strain indicated above may seem less extravagant if we remember how vital the function of vision is to every act, how necessary to every minute's safety of the organism, how uninterruptedly active during every instant of waking life. Not only every act, but every emotion and thought—intellect itself, and imagination, are born of or bound up with visual acts and results. The very letters of the alphabet are conventionalized pictures of things. Mind is incarnate and concentrate seeing. The visual centres of the brain are in the closest and most vital connection with all other brain centres. How easily, therefore, must a disturbance of the peripheral mechanism send a jarring and discordant thrill throughout the entire motor, sensory, and psychic

being. At once the microcosm is aroused to correction and adjustment; subordinate and commissurally connected centres feel the challenge and the overflow according to the accidents of weakness, diathesis, disease, and their varying powers of resistance. The result of this overflow, or switching, is a reflex neurosis, and from the supreme importance of the function of vision and the unusual strain that civilization puts it to, the eye becomes the greatest originator of these disturbances.

ORIGINAL ARTICLES.

ON HYPEROSTOSIS OF THE PRÆMAXILLARY PORTION OF THE NASAL SEPTUM, AND A DESCRIPTION OF AN OPERATION FOR ITS RELIEF.

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IN a well-defined group of cases there exists at the lower part of the septum, anteriorly, between the triangular cartilage and the floor of the nose, a disposition to hyperostosis which may so far encroach upon the vestibule (as this passage is seen just within the plane of the nostril) as to create an obstruction. The triangular cartilage itself, in these cases, though it may remain straight, is usually deflected to the side occupied by the main portion of the hyperostosis. Fully one-third or one-half of this osseous growth lies below the plane of the nostril, and the obstruction which it causes is not removed by any of the means for correcting deviation of the septum. The existence of the hyperostosis can be demonstrated by passing a curved probe within the nasal chamber, placing its free end on the floor, and drawing the instrument forward. The probe is felt to touch a resisting mass at a distance, on an average, of one-half inch from the anterior edge of the nasal aperture. It is evident from such a conformation that the mucus which trickles to the floor of the nose cannot be easily removed, and that when inspissated it will excite irritation, and lead to insufficiency of nasal respiration.

Careful dissection shows that the growths can be best exposed by separating the upper lip from the jaw at the region of the nasal spine. The lip being elevated, an incision is made through the frænum, and a chisel is employed to break down the resisting mass of bone at the præmaxillary portion of the septum. In some cases a metacarpal saw is preferred, or a gouge can be used with advantage. A hand-drill is sometimes very effective. The single object in view is to remove as much bone as may obstruct the chambers. The bone is of great hardness, and rapidly dulls the sharpest instrument. It thus becomes necessary to have a number of freshly sharpened instruments for each operation. After the parts have been sufficiently reduced the triangular cartilage, if it be deflected, may be separated from the lower border of the notch, and set in a favorable position by the use of either pins or plugs.

It is hardly necessary to state that many phases of distress are relieved by less interference than is described above; but it is nevertheless true, that some patients who have had all the resources at my disposal exhausted without obtaining relief, were promptly cured, or greatly improved, by the supra-labial operation. I have operated many times, and in no instance have I observed any rise of temperature. I believe the procedure to be free from risk. The after-treatment is exceedingly simple. The lip being allowed to fall into position makes perfect adaptation, and closes the oral wound. Until the septum is attached in its new position, ivory or cotton plugs are used as splints. These must be removed daily for a week, at the end of which time the parts are entirely healed. The lip remains slightly swollen for a very short time, but I have never seen any inflammation.

CASE I. *An inveterate, chronic, nasal catarrh greatly relieved by the supra-labial operation, after all other means had failed.*—W. J., twenty-eight years old, reported to me for catarrhal difficulties, arising from obstruction to the nasal respiration, of four years duration. I found hypertrophy of the right turbinated bone, and a sharp spur on the nasal septum at the junction of the anterior part of the vomer and the perpendicular plate of the ethmoid bone; the septum was deviated to the left. The anterior end of the left middle turbinated bone was the seat of a chronic hyperplasia. The quantity of discharge in this case was exceptional. It was constantly flowing, both day and night. The largest part passed backward, and greatly interfered with sleep and appetite. Its presence did not excite any reflex symptoms.

In January, 1885, under ether, I loosened the triangular cartilage from its inferior attachment, at the same time removing the hyperplastic membrane from the left middle turbinated bone, and the hypertrophied tissues from the right turbinated bone. The spur which was formed at the junction of the vomer and the perpendicular plate of the ethmoid was ablated with a saw, as originally recommended by me. Great relief followed this manipulation, but the triangular cartilage, in time, resumed its old position. In September, 1888, he reported a second time. Since, in this long interval, much of the original distress remained unrelieved, he had been under the care of leading laryngologists, and all had been done for him that was possible to do. Examination revealed no cause for interference with either the turbinals or the septum. I detected, however, that the præmaxillary portion of the septum was unusually thick, and, with the object in view of reducing its size, I proposed to him the supra-labial operation, which, up to that time, I never performed.

On December 1, 1888, I performed the operation under ether. Separating the under lip from the jaw, at the junction of the labio-alveolar mucous membrane, the nasal spine was exposed and freed from periosteum. A stout chisel was then used, which measured about two-thirds of an inch on its cutting surface. The instrument was pushed firmly against the junction of the spine with the triangular cartilage, thus separating the cartilage from the maxillary portion of the septum, and was thence directed downward and inward. It soon met with the hyperostosis, and could not be urged forward without the aid of a mallet. The chisel, being slightly wedge-shaped, increased the interval between the septum at the place of division and the floor of the nose, so that some relief of the strain under which the part had before suffered was to be expected. The sides of the mass were reduced by the saw.

The patient was greatly relieved by the operation, although not to the extent that I desired. There is still a disposition for the triangular cartilage to return to its old position, which, however, is, in great measure, under control.

CASE II. *Chronic nasal catarrh, pharyngitis, deafness, vertigo, and impairment of memory; relief by intra-nasal treatment; a return of the pharyngitis in an obstinate form cured by the supra-labial operation.*—S. S. D., aged forty-nine; reported May 14, 1887. The patient had received a severe injury on the left side of the face when a boy. Nothing appeared to have followed the direct effect of this injury until the patient was thirty-seven years old. At this time he suffered from attacks of "sore-throat," and conditions connected with ineffective nasal respiration. In time nocturnal mouth-breathing was established; a headache of high grade was developed on the right side of the brow; the memory became impaired; the patient became dyspeptic, and was greatly annoyed with vertigo. The distress arising from these symptoms gradually increased until, at the time he reported for treatment, he was contemplating, on account of his ill health, retirement from business. Chronic aural catarrh supervened in 1884. The hearing distance on the right side was seven inches, and that on left side four inches. The vibrations of the tuning-fork were referred to the left side. The handle of the malleus was retracted on each side.

The nasal septum was so far deflected to the right, directly within the nostril, as to prevent any view being obtained of the interior of this chamber. On the left side the parts were open anteriorly; but, at the junction of the middle and anterior third, the septum was thickened, and hyperostosed in the præmaxillary portion, and greatly deflected to the right at the line corresponding to the juncture of the vomer and perpendicular plate of the ethmoid bone. The inferior meatus at the upper part was thus completely obliterated. Posterior rhinoscopy showed the septum to be uniformly thickened. The left choana was markedly smaller than the right in all its proportions. Lateral swellings on the vomer were conspicuous, the swelling of the left side being much the larger, nearly obliterating the choana. The left middle turbinated bone was nearly vertical; the turbinals were nowhere enlarged. The walls of the oropharynx were infiltrated, of a red color, and the entire region was excessively irritable. Quantities of tenacious mucus were seen occupying the pyriform sinuses.

On May 16, 1888, I advised that the patient be etherized, and the nasal chamber explored, the object being to determine its condition on the right side, and to remove the septal ledge on the left. The little finger being passed into the right nasal passage, I found to my surprise that the triangular cartilage readily yielded to gentle pressure, and permitted the finger to pass well into the chamber. The inferior turbinated bone was atrophic. A moderate amount of hyperplasia was detected at the anterior part of the middle turbinal. The only surgical measure at this time resorted to was the removal of the septal ledge on the left side, which was easily accomplished with a saw.

The patient returned to his home a week after the operation, and was not seen until November 5, 1888, when he presented himself with the following report. The pain over the right brow and the vertiginous symptoms had disappeared; digestion and the habit of mouth-breathing were improved; the hearing distance on the right side had increased to eleven inches, and that on the left side to seven inches; the tuning-fork was referred to the vertex; the memory was not improved.

The patient reported again in a fortnight, complaining that the pain had returned, the other symptoms remaining the same. I did not see him again until March 7, 1889, when the improvement recorded under note of November 5, 1888, was found unchanged. He had greatly increased in weight—before the operation he weighed 185 pounds, and at this date 224 pounds. The only symptom of which he complained was a slight discharge into the nasopharynx, which annoyed him in the early morning. He remained in this condition until May 3, 1889, when he reported with the statement that the throat had remained perfectly comfortable for a year, then gradually became uncomfortable, and, at the date of report was about the same as before the operation. The headache, vertigo, and oral breathing had not returned; the hearing distance remained the same. A slight degree of fetor was noticed on the breath. I again advised another examination under ether, with the object of placing the triangular cartilage in a better position, and diminishing the thickness of the septum at the præmaxillæ.

Accordingly, on June 21, 1889, I performed the supra-labial operation. There was more oozing of blood than usual, and reflex neuralgic pains followed. The patient, however, made an entirely good recovery, and reported on October 8, 1889, with entire relief of all his symptoms, save the impairment of hearing and of memory.

November 13, 1889, the patient reported with a slight recent catarrhal pharyngitis, which excited anxiety. There was no return of the nasal difficulties. The hearing distance on the right side remained at eleven inches, but on the left side it had improved, the distance being eight inches.

REMARKS.—This case is of interest on account of the acquired habit of mouth-breathing in an adult exciting chronic pharyngitis and aural catarrh. These symptoms were either greatly relieved or entirely removed by operative procedures within the nasal chambers. It is also interesting to observe that while considerable comfort was derived from the reduction of the septal spurs, which were placed far back within the nasal passages, entire relief from the nasal and pharyngeal symptoms was not acknowledged until the hyperostosis of the præmaxillary portion of the septum was removed.

CASE III.—A. H. D., a lawyer, thirty-seven years of age, was sent to me by Dr. Lewis Taylor, of Wilkesbarre, Pa., October 4, 1888. The patient complained that from his seventh year he had suffered from nasal catarrh associated with attacks of spasmodic asthma. He was peculiarly susceptible to the odors arising from horses. These odors increased the secretions, including those of the lachrymal apparatus. The odors of the seashore had a similar effect, but were less constant and not so severe. Independent of these serious distresses, the catarrhal attacks were irregular, and were often dependent upon systemic causes as well as those of climate. Aggravated forms of the attacks were sufficiently common to interrupt seriously his professional engagements. A physician had, a short time previously, amputated the uvula, but without effecting relief. In 1880 symptoms of lachrymal obstruction appeared.

Examination showed that the nasal chambers were normal in all respects, except the præmaxillary portion, where the septum was enormously thickened anteriorly, and the floor of the left side elevated considerably above the level of the right. Both chambers were large anteriorly, just above the plane of the nostril. The pharynx presented the ordinary signs of chronic inflammation. Both lachrymal punctæ were small. I recommended that the supra-labial operation be performed. This was accordingly done October 18, 1888. The patient made a prompt recovery, and was immediately relieved of all his symptoms, excepting those which pertained to the lachrymal ducts. I last heard from this patient June 18, 1889. He remained perfectly free from all his catarrhal and asthmatical symptoms, and had been much improved by treatment, at his home, of the lachrymal obstructions.

REMARKS.—This case is an illustration of the long-standing effects which can arise from irritations excited by the hyperostosis of the anterior part of the septum, and of the necessity of a surgical operation.

CASE IV.—F. G., a machinist, aged twenty-four years, was sent to me by Dr. C. A. Wirgman. Since childhood he had suffered from nasal obstruction and catarrh. The anterior portion of the nasal chamber was obstructed by thickenings of the nasal septum over the præmaxillæ.

On June 3, 1889, I performed the supra-labial operation. The parts were exceptionally dense; the nasal spine was long, with a broad base; the triangular cartilage was bent far over to the right, completely occluding the nasal chamber at this point. To remove this occlusion the cartilage was separated from the vomer and anterior nasal spine by means of my septum knife. It was then pushed over toward the left side and was held in position by cotton pledgets. I did not see the patient again for a week, as he was placed under the care of Dr. Wirgman. He had returned to his work—that of a laborer in an iron mill—the third day after operation. He was instantly and entirely relieved from all his distress, which has not since returned.

CASE V.—D. S. W., twenty-four years of age, reported, June 10, 1887, at the recommendation of Dr. C. H. Spooner, suffering from attacks of epistaxis. The disposition to hæmorrhage was hereditary, being transmitted by the father. The subject's brothers and sisters possessed the same peculiarity. One sister died of consumption, and he said that all his family had weak lungs. Attacks of bleeding occurred about every month or two. The patient complained of sensations of heat and dryness within the nostrils, and he was constantly disposed to pick the right nostril, and to wake up in the morning from unrefreshing sleep to find the mouth and throat parched. Nasal respiration was normal except at night, when oral breathing was established. He was treated in early life for attacks of stomatitis by Dr. Spooner, who believed the patient to be strumous.

Inspection of the nasal chambers showed great thickening of the præmaxillary portion of the septum. The deflection of the triangular cartilage to the right was sufficient to effect contact with the anterior end of the inferior turbinal. In almost its entire extent the cartilage was the seat of a superficial ulceration which bled upon the slightest touch. A peculiar odor was detected about the parts which I have noticed with the subjects of chronic bleeding. It is apparently caused by the decomposition of mucus containing blood-clot.

The left choana was very much smaller than the right and possessed a nearly vertical middle turbinated bone. I treated the ulcerated surface with applications of nitrate of silver, but without success. I saw the patient every week or fortnight until October of the same year, when he was attacked with an acute coryza followed by pharyngitis and a great deal of œdema. This attack greatly increased the difficulties attending nasal respiration. On the sixth day a spontaneous hæmorrhage occurred which appeared to be from both nostrils. I saw him at noon of the same day of the attack, and plugged the nostrils. The hæmorrhage was arrested for seven hours, but returned at eight o'clock in the evening of the same day, when the parts were again plugged, this time permanently stopping the bleeding.

The inferior turbinals were subject to great alterations in size, but, as a whole, they were normally proportionate, the left being slightly larger than the right. The masses in the naso-pharynx were seen to vary in size at different times, and occasionally to project from the choana into the naso-pharynx, but without exciting, at such times, any distress.

Believing that the unrelieved ulceration was a constant exciting cause of hæmorrhage, and the condition of mouth-breathing a predisposing cause to laryngeal or pulmonary phthisis, I operated on him, February 19th, to relieve the strain of the triangular cartilage, trusting by this manipulation to cure the ulcerated surface. The patient did well until June 25th, when a profuse bleeding occurred. This was controlled by pressure from without, proving that the bleeding-point was near the nostril. A week later a second bleeding occurred, which was promptly checked by the patient pressing the alæ of the nostril firmly against the septum. He made a good recovery.

Six months after the operation he reported, saying that all the symptoms had disappeared, and that he had had no bleeding since the attacks immediately after the operation. The alæ was entirely healed.

REMARKS.—In this case an intractable ulcer of the triangular cartilage, in an hereditary bleeder with a strumous history, was cured by relieving the nasal septum from strain at its anterior part. Owing to the constitutional peculiarities the operation was essayed under difficulties, but none of these interfered with a good recovery and correction of an annoying and dangerously diseased condition.

The operation of resetting the triangular cartilage, as performed by myself, consists in separating the lower border of the cartilage from the triangular notch, pushing it toward the larger cavity of the nose, and fixing it in its new position. Should the spur on the smaller side be very prominent, it may be sawed off. In the absence of hyperostosis of the præmaxillary portion of the septum, this little procedure is often all that is required to give comfort. In all operations on the septum it must be remembered that no radical increase of diameters is to be sought for. A tendency for the parts to return to their original positions is in constant operation. The surgeon must not be disappointed to find the triangular cartilage disposed to return to its primal place; but while the parts often look as though little had been accomplished, the reports of the patient are encouraging. Something in the way of relief has been accomplished and in the great majority of cases sufficient to warrant acceptance of the procedure as a safe means of curing the symptoms attending nasal obstruction. Occasionally, after healing is completed, small fibroid or cartilaginous nodules are seen occupying the inferior meatus. These result from the process of cicatrization, and they must be removed by the knife or the scissors.

Simple Method of Curing Obesity.—A French journal announces a cure for obesity which is as simple as it is said to be effective (*Weekly Medical Review*). The method consists in never eating more than one variety of food at a meal, without any restriction in the amount taken. Two cases are reported illustrating the effects of the treatment.

MITRAL STENOSIS IN CHILDHOOD.[1]

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THE constant advance in medical knowledge is in no way better illustrated than by the fact that the mitral stenotic murmur is again tossed into the arena of controversy, and that the object of this paper is partly to defend its existence.

First referred to by Gendrin in 1841, and differentiated by Fauvel in 1843, it had a somewhat checkered career until 1862, when Gairdner so ably described its characteristics that its position in the nomenclature of cardiac disorders seemed to be assured. Very recently, however, the old dispute, opened by Barclay, has been renewed by Dickinson (1887), who does not accept the statement that the presystolic murmur is indicative of mitral stenosis; but Balfour, Gairdner, Bristow, and more recently Sansom, have most vigorously re-asserted the diagnostic importance of this murmur. It is the object of the writer of this paper to add his testimony to the value of this sound in interpreting conditions of obstruction at the mitral orifice. It is my opinion that obstruction at the left auriculo-ventricular orifice presents a most characteristic sound.

Having stated the position we occupy in regard to this controversy, we will proceed to a consideration of the murmur *seriatim*. By mitral stenosis we understand an alteration in the histological structure of the left auriculo-ventricular orifice which causes an obstruction to the passage of the blood from auricle to ventricle.

The accompanying Table (p. 187) presents a series of cases of mitral stenosis taken from my case-book.

Etiology.—This condition is probably never congenital, although some observers have stated the contrary. The most recent and most authoritative communication upon the subject, that of Osler in Keating's *Cyclopædia*, dwells upon the condition of tricuspid stenosis with atresia of the orifice, but does not make any reference to a similar condition on the left side, although illustrations are appended of an irregular differentiation of the segments and of numerical anomalies of the curtains of the valve. Furthermore, it is not at all likely that fœtal endocarditis would produce this condition, for endocarditis in the fœtus is, almost without exception, confined to the right side; and again, the murmur has perhaps never been recorded during the very early years of life. In

[1] Read before the Medical Society of the State of California, April 16, 1890.

No.	Age.	Sex.	Murmur.	Concomitant disease.	Results and remarks.
1	Observed from 8 to 12 years.	Male.	First, presystolic; later, regurgitant; thrill. Early reduplication of second sound disappeared later.	Rheumatism and anæmia.	Child under careful observation for four years. Dilated hypertrophy for last two years. Œdema, dyspnœa, and death from exhaustion. Autopsy: Buttonhole mitral. A photograph of the boy in his eighth year is pictured in Bruen's Physical Diagnosis. He died under my observation in the Hospital of the University of Pennsylvania.
2	12 years.	Female.	Loud, rasping, presystolic murmur, followed by low purring, systolic bruit; thrill.	None; she and her friends can recollect no attack of acute disease. and state that the child has hardly been sick a day in her life. Sought advice for shortness of breath.	Case is fully reported in Diseases of the Heart and Circulation in Infancy and Adolesence, by Keating and Edwards, 1888, p. 110. Alive at report.
3	13 years.	Female.	Pronounced presystolic, with low systolic.	Coxalgia; enuresis; some hypertrophy; heart acting well.	Observed in consultation with H. W. Yeamans, M.D., San Diego. Alive and well at report.
4	7 years.	Female.	Presystolic; thrill.	Anæmia and deficient personal hygiene.	Observed in Children's Hospital, Philadelphia, with C. W. Kollock, M.D.
5	9 years.	Male.	Pronounced presystolic; apparent reduplication of second sound.	Ill-defined rheumatism, not articular.	Private practice, Philadelphia. Alive at report.
6	12 years.	Male.	Presystolic.	Ill-nourished. Died during a severe epidemic of measles. Heart was hypertrophied, but auricle dilated.	Death. Stenosis marked, orifice irregular, and valve segments fibroid; funnel-shaped. Private practice, Philadelphia.
7	7 years.	Male.	Presystolic, with slight systolic thrill.	Bulging præcordium; emaciated; pale; anæmic; no rheumatism; hemiplegia and aphasia.	Death. Post-mortem: Buttonhole mitral; stenosis marked; clots fibrinous and organized; anterior and middle cerebral arteries of left side contained emboli. Observed in Third Outdoor District, Philadelphia.
8	11 years.	Female.	Typically presystolic; thrill.	Bulging præcordium; top-heavy appearance, due to auricular dilatation. No rheumatism. Aphasia; hemiplegia.	Death. Post-mortem: Funnel-shaped mitral; clots fibrinous; middle and anterior cerebral plugged. Observed in the Third Out-door District, Philadelphia.
9	6½ years.	Female.	Presystolic.	Anæmia; ill-nourished and poorly developed; slight rheumatism; frequent attacks of diarrhœa.	Alive at report. Heart-beats irregular; apparent reduplication of second sound. Private practice, Philadelphia.
10	9 years.	Male,	Predominant, loud presystolic, with low systolic thrill.	No symptoms; sought advice on account of nightmare.	Alive at report. Private practice, Philadelphia.
11	12 years.	Female.	Loud presystolic thrill.	No rheumatism; few symptoms; short breath most exacting.	Alive at report. Private practice, Philadelphia.
12	5½ years.	Male.	Presystolic.	Ill-defined rheumatism; dyspnœa; præcordial bulging; anæmia.	Died from asthenia. Auricle dilated; contained clots; ventricle dilated; hypertrophy. Observed in the Third Outdoor District, Philadelphia.

most instances the child has reached or passed its fifth year, although occasionally cases are recorded at a younger age, as, for example, Chapin's[1] case of two years, and Sansom's[2] case of four years and three months. The latter observer has also recorded the case of a baby two months old who presented a ring of granulations of endocarditis with thickening of the mitral valve; so that, on the whole, we can conclude that the congenital origin of mitral stenosis is not proven. Not so in regard to rheumatism; the association between the two conditions is, as we all know, as definite as that which exists between regurgitation at the same valve and the rheumatic diathesis. An analysis of the recent literature shows that the association is apt to be with a rheumatic condition that is not marked or acute, but latent and insidious, in contradistinction to the severity of the attack in which the regurgitant murmur is usually produced. For example: in Chapin's series of 31 cases, 20 presented rheumatic involvement, as follows: In 6 there was a history of rheumatism in the immediate family, but none in the patient; in 4 cases there was rheumatism in the family, and the child had also been rheumatic. In 10 instances the patient alone presented a rheumatic history. Sansom most aptly remarks that the stenosis is rarely associated with

[1] New York Medical Record, January 4, 1890, p. 5.

[2] American Journal of the Medical Sciences, March, 1890, p. 284.

the explosive varieties of rheumatism. Of his 40 cases, 26, or sixty-five per cent., were rheumatic. Cheadle has noted an even more intimate association—that is, seventy-nine per cent., or 44 cases out of 57, being rheumatic. This, as we see, leaves a small proportion of cases which occur independently of any rheumatic taint, cases whose etiology has been the cause of much speculation, and not infrequently of the advancement of somewhat improbable hypotheses in endeavoring to unravel the problem. Sansom, indeed, loath to relinquish the rheumatic taint as a causative factor, states that even in cases in which there was no history of rheumatism obtainable the changes in the endocardium were identical with those that occur in association with the diathesis; in fact, he was unable to differentiate these cases from those that were known to be rheumatic; and Chapin, in an earlier paper (1886), presented notes of 26 cases of heart-disease in rheumatic children, in which only 4 presented evidences of mitral obstruction, and in 3 instances it was associated with other murmurs. Of the remaining moiety of cases, the etiology has been placed in one or other of the accepted causative agents of valvular derangement.

Duroziez, Landouzy, and Schnell[1] testify to the possibility of a *so-called* idiopathic origin of mitral stenosis, more particularly in women and children, an illustration of which would seem to be a case recorded by Sansom,[2] in which there were signs of wasting and long-continued malnutrition. The girl, aged nine, whose general appearance and condition suggested tuberculosis, wasted rapidly and had night-sweats. The physical signs, however, were "a typical presystolic murmur, with sharp, loud impulse, and the signs of considerable cardiac hypertrophy."

Another series of cases seem to arrange themselves naturally under a derangement of the nervous system. One of Chapin's cases had chorea but not rheumatism, and nine of Sansom's cases manifested chorea, two were right and two were left hemichorea; in several of his cases hemiplegia, paresis, and epilepsy were associated with the vascular lesion. Then, again, a mitral stenotic murmur may be heard in association with other valvular murmurs; particularly is this the case when the aortic leaflets are incompetent, allowing regurgitation at this orifice, with a constant damming back of blood in the ventricle, which perhaps might float the mitral curtains out into the current, and thus produce an obstruction in the direct mitral current—a mechanism by which Guitéras has endeavored to explain the cases of what he terms direct functional murmur. A small number of cases are no doubt due to the fact that a valve which was primarily incompetent and which permitted regurgitation, may undergo further change, and become stiffened, indurated, and stenosed, thus giving rise to the murmur of stenosis.

Diagnosis.—The peculiar percussion outline in this affection was well illustrated by two cases, one of which was under my observation for about four years in Philadelphia. The heart was secured at autopsy in the Hospital of the University of Pennsylvania. The other case I have fully reported elsewhere.[1] The increase in the size of the auricle gives the heart a top-heavy appearance, and in the first case an auricular impulse was many times demonstrated to the class. This pulsation, seen in the second and third left interspaces, always preceded the apical impulse, and, to our mind, clearly demonstrated the presystolic impulse of an hypertrophied auricle dependent upon mitral stenosis, and, in consequence, the presystolic time of the murmur. It is granted, of course, that an auricular impulse is not a constant concomitant of mitral constriction (in Sansom's series it was present in 4 of 35 cases); but, when it does exist, its significance is evident. Not so, however, with a thrill, which is a much more constant attendant, and was present in 7 of our cases and absent in 5. This thrill was always presystolic—that is to say, it ceased abruptly with the occurrence of the apex beat; it was usually felt best by the tips of the fingers placed somewhat above and to the right of the apex. The thrill may not be constant in a given case; it may exist at one examination, and be absent at the next.

It is more particularly, however, to the murmur that we desire to call attention. A murmur heard above and within the apex; that ceases abruptly with systole, immediately upon the apex striking the chest-wall, or, with the finger upon the carotid, as soon as the pulse is felt; a murmur which in a child is usually harsh or rolling in timbre, and may commence immediately after the second sound and occupy the entire long pause, or may be audible only at the termination of this pause (the presystolic period or according to some the post-diastolic) is, as we understand it, diagnostic of mitral stenosis.

But to assist us in our diagnosis there are certain concomitant signs, such as accentuation of the pulmonary-artery second sound, and seeming reduplication of the second sound, explained by some by the fact that the unfilled right chambers cause a right ventricle and pulmonary artery systole to precede the same act upon the left side, as Da Costa remarks in illustration of the fact that practically two hearts exist in the chest. Sansom, however, considers this an example of what has been recorded by Henry

[1] Annual of the Universal Medical Sciences, 1888.

[2] American Journal of the Medical Sciences, March, 1890, p. 234.

[1] Diseases of the Heart and Circulation in Infancy and Adolescence. Keating and Edwards, 1888.

as a case of asynchronous contraction of the cardiac ventricles.[1] Reduplication may be due to a sudden tension of the mitral valves following the normal second sound and preceding the presystolic murmur. We have already called attention to the thrill, which may be associated with the murmur, or may exist independently. It must be borne in mind that the presystolic murmur of mitral stenosis is not constant, it may be present one day and absent the next. The largest proportion of cases is accompanied by the murmur of regurgitation, but in 7 out of the 12 above cases the murmur of stenosis alone existed. In differentiating it is well to remember, with the other differential signs, that systolic murmurs fade away, whereas a presystolic murmur ends abruptly with systole.

Reference must be made to the careful work of Dickinson,[2] although we are unable to accept his deductions. He concludes that the murmur we are considering usually runs into the systole about as far as the carotid beat and then ends with the terminal knock. He, however, concedes the little murmur which follows the second sound and occurs in the mid-diastolic period to be the true murmur of mitral stenosis; this he terms the old direct mitral murmur, made from auricle to ventricle through a much-contracted valve. It is, however, not granted by this observer that the murmur which begins after this has ceased (the presystolic murmur of this paper) is correctly termed presystolic. He prefers to consider it really a regurgitation, or a direct mitral murmur which rumbles up to near the end of the ventricular systole. This effort of Dickinson to prove the systolic nature of the murmur that we are pleased to call presystolic, concludes in this wise—"Does the lifting of the chest-wall, as felt with the fingers, indicate the systole? Does the murmur accompany the lifting? Does the carotid beat follow the murmur without an interval? If these do so, the murmur is systolic." We, of course, concede that the chest-lifting indicates the systole, but do not believe that the murmur accompanies this lifting, nor can we reconcile our answer in the affirmative in regard to the last proposition. Indeed, it would be still harder to concede these propositions after a careful study of Fenwick and Overend's paper.[3] The cardiograms of these observers demonstrate beyond peradventure that the murmur commences immediately before the ventricular contraction, and that the bruit is both presystolic as regards sound and contraction. Gairdner has suggested, and we are heartily in accord with him, that the auricular systole gives to the blood column an additional impetus, thus increasing its rate of flow through the constricted valve, causing the fluid to vibrate and the sound thus produced becoming audible to us as the presystolic murmur.

We quote two conclusions from the above observer, the application of which will be obvious to all.

"1st. The auriculo-ventricular valves occupy a horizontal position during the systole of the ventricle, while the papillary muscles contract simultaneously with the rest of the ventricular wall. The ventricle does not empty itself completely, there being a certain amount of residual blood.

"2d. The mid-diastolic mitral murmur in mitral stenosis owes its existence to the influence of the high pulmonary tension. The latter also plays an indirect part in the production of the early and late (presystolic) mitral murmur; but the immediate exciting cause of the early diastolic is the negative pressure of the left ventricle, while the late diastolic is usually due to the force of the auricular contraction. The murmur and the thrill coincide with each other in the cases we have examined."

The affirmative view of the diagnostic significance of presystolic murmur in mitral stenosis has been most ably defended by Reynolds,[1] but space forbids further reference to it. One has but to read the little work of Davies[2] on the mechanism of the circulation of the blood through organically diseased hearts, to be further convinced of the fallacies of the statement of those who consider that the murmur indicative of mitral stenosis is systolic in rhythm.

Clinical Symptoms.—As a rule, these resemble somewhat closely those of regurgitation at the same valve. There are dyspnœa, cough, and later, general or local dropsy, delirium cordis and tachycardia, or cardiac distress. Some of our cases, as we have already stated, have been very insidious in their onset; indeed the first physical signs were, apparent reduplication of the second sound followed in a variable time by the typical presystolic murmur; in other children who had presented a systolic murmur, a presystolic murmur would be found at a subsequent examination, either replacing the former or appearing as a concomitant. Other cases, which, however, are in the minority, may present evidences of lesions in the nervous system as the most evident symptoms of mitral stenosis. But two of our cases presented such an association; that is, hemiplegia and aphasia in connection with a buttonhole mitral; though Sansom in thirty-eight cases has observed quite a number with manifestations of nervous disorders, such as chorea, epilepsy, hemiplegia, and localized palsies from emboli. As this observer remarks, it is a fact worth noting that, with the exception of chorea, not one of these severe lesions of the nervous system

[1] Archives of Medicine, August, 1881.
[2] Lancet, October 19, 1889, p. 779.
[3] Ibid., October 26, 1889, p. 843.

[1] Lancet, November 9, 1889, p. 976.
[2] London, 1889, H. K. Lewis, Publisher.

occurred in children who presented mitral insufficiency.

Prognosis.—In the child, unlike the adult, we do not fear the absence of compensatory hypertrophy, but rather do we fear the known liability to recurrences of rheumatic endo-pericarditis; and superadded to this danger is the ever-present liability to embolism.

As we have stated elsewhere the inherent power of the growing heart is usually sufficient to allow the organ to accommodate itself to the organic alteration, and, in the absence of new invasions of the disease, to permit the child to attain maturity with a fair degree of health. On the whole, however, in early life, mitral stenosis probably more often proves fatal than does regurgitation at this orifice.

1855 FOURTH STREET, SAN DIEGO, CAL.

PERFORATING ULCER OF THE STOMACH, WITH THE REPORT OF A CASE.[1]

BY U. O. B. WINGATE, M.D.,
OF MILWAUKEE, WIS.

THAT the early diagnosis of ulcer of the stomach, which may perforate the gastric walls and end the life of the victim, is often beset with the utmost difficulty, I believe cannot be gainsaid. With the object of calling attention to this difficulty, I venture to report the following case and to make some observations:

B. G., female, five and a half years of age, gave the history of a weak stomach from birth. Has passed through a severe attack of membranous croup and several gastro-intestinal attacks of varying severity. During the past summer has been quite well—occasionally, however, complaining of some pain in the stomach, and has had diarrhœa at times, but which was not sufficiently severe to require medical treatment—so thought the parents.

On Friday, October 12th, she came home at noon, after having been playing with other children, complaining of feeling ill, and soon vomited freely. Of what this ejecta consisted I was unable to learn definitely, but the mother was quite sure that it contained nothing remarkable or unusual. She could not find that the child had eaten any unusual food while out; at home her diet was always carefully regulated. She passed a restless night and was no better in the morning. In the afternoon of this day, Saturday, when I saw her for the first time, she appeared very ill. Pulse 140; temperature 102° F.; tongue furred with quite a heavy yellowish-white coating; stomach tender on pressure; bowels constipated; abdominal walls retracted and muscles rather rigid. No cardiac or pulmonary symptoms. The next day, Sunday, she was no better, and was still inclined to vomit everything swallowed. I saw her twice this day, and after several enemata given by the mother, an evacuation of the bowels was obtained, but nothing unnatural was observed in the matter evacuated. After this she seemed better, passed a good night, and on the next morning, Monday, her pulse was 120 and temperature 99° F. She still vomited occasionally, and was quite irritable, but the latter symptom was not unusual to her. On Tuesday and Wednesday nothing was noted and she appeared to be improving. On Thursday morning at my visit her pulse was 115; temperature normal; she was retaining lime-water and milk, and a little wine whey. She wanted to get up, but this I advised against, though I fear my advice was not heeded. That evening the father called at my office, and stated that the child's hands were cold, but that she seemed bright and strong, and he did not think it necessary for me to see her. I asked him to call me on his return if she appeared worse. I heard nothing until early the next morning, when I was telephoned for, and responded at once, to find the patient in complete collapse; pulseless; feet and hands cold and purple; eyes sunken; mind clear; stomach and abdomen tympanitic; stomach somewhat prominent. The liver dulness could not be made out. There was paroxysmal pain, and at times regurgitation of thin, greenish fluid. The parents, when told that the child was past hope could not believe me, and called in another physician who resided near, and who in my presence concurred in my diagnosis and statements. The patient died in a few hours.

An autopsy could not be obtained; however, I do not think there can be any doubt about the diagnosis.

Up to the time of the collapse I had considered the case one of mild gastritis, and though the idea of an ulcer was present, it did not make much impression on my mind. I now believe that an ulcer had existed for a long time and that the gastritis hastened the perforation.

There are some points of interest connected with this class of cases to which I desire to refer briefly. Brinton was able to collect two hundred and thirty-four cases of perforation from ulcer of the stomach, and, of course, many cases are not reported. The largest number of perforations occur between the ages of fourteen and thirty years. The ulcers which perforate are found about twice as frequently in females as in males—corresponding about to the ratio of ulcers generally in the sexes.

The location is important, from a surgical point of view, as well as interesting. Thus, according to Dreschfeld's report, 85 per cent. of ulcers situated on the anterior wall of the stomach, 2 per cent. of those on the posterior wall, and about 10 per cent. of those located at the pylorus, perforate. The history is also interesting and important. In many cases where perforation takes place the symptoms of gastric ulcer are wanting. Profuse hæmatemesis, excessive and constant pain, and symptoms of dila-

[1] Read before the Milwaukee Clinical Society, May 13, 1890.

tation of the stomach are, as a rule, absent. This is accounted for by the location.

Sudden pain, often of a paroxysmal character, is said to be almost always present. Sudden collapse is present if the perforation be at all extensive. Epstein has called attention to an important symptom, viz., rigidity of the abdominal muscles, or walls of the abdomen. This is present whether the walls are retracted or distended, is probably due to irritation of the peripheral nerves, and gradually subsides with the progress of the case. Tympanites is always present—in some cases the region of the stomach will bulge, while the abdomen is retracted. An important diagnostic point in connection with tympanites is the absence of liver dulness, due to the presence of air in the abdominal cavity. Vomiting is reported to be usually absent in cases of perforation. After perforation, death is almost invariably the result. Some cases of recovery are reported, but in them there is the possibility of an incorrect diagnosis.

The question of surgical interference is an important one. The difficulty of diagnosis immediately after perforation perhaps is an objection, but when seen early, even if in doubt, where collapse is advancing, and the pulse present, but increasing in frequency, I believe that abdominal section should be performed at once.

In the case which I report there was so little life left when seen after the perforation, that an operation was out of the question. Had I seen the patient the night before, when the father reported the cold extremities, perhaps something more could have been done.

204 BIDDLE STREET.

CLINICAL MEMORANDA.

MEDICAL.

Case of Purpura Hæmorrhagica Rheumatica. (Peliosis Rheumatica; Morbus Maculosus Werholfii.)[1]

EDDIE D., aged thirteen years. Previous health good. His first attack was in March, 1889, and began with swelling of all the joints, pain, especially in the knees and ankles, a purpuric eruption over the entire body, and pain in the stomach and vomiting.

The pain in the knees and ankles was excruciating. He was put on a diet of milk and Mellin's food, and recovered in two weeks. This attack followed prolonged exposure and excitement at the base-ball grounds —the boy being infatuated with the game was frequently all day without food, except ginger cakes, pie, and peanuts, and sat on the rough benches of the ball grounds in cold winds, in rain, or in heat.

The second attack was in September, 1889, and was similar in character, except that the swelling and eruption were confined to the right half of the body. He had then been exposed to scarlatina.

The treatment up to this time had been acids, iron and quinine, and, to relieve pain, morphine.

The third attack was on November 15, 1889, and was similar to the preceding, but more severe. Pain in the abdomen and left side of chest was intense. In addition to the purpuric eruption there were hæmorrhages from the bowels and bladder, and, in large patches, into the skin. No hæmorrhage from the nose or lungs.

There had been very little fever during the attacks, the temperature seldom rising above 100°.

In the third attack he was delirious, and had dyspnœa, swelling of the forehead and conjunctivitis. Arsenic, which he had been taking for several weeks, was discontinued.

On December 17, 1889, and on February 27, 1890, he had relapses. After this to the present time relapses recurred at intervals of a month or six weeks, but were less severe.

During the intervals he is not perfectly well, though comparatively comfortable and free from pain. Since the beginning of the disease the purpuric eruption has never been absent.

The urine was examined from time to time, and, excepting the presence of blood, was found normal. On one occasion, however, there was a greatly diminished amount and much albumin, evidently due to acute nephritis.

Dr. Theobald Smith, Bacteriologist to the Government Agricultural Department, was kind enough to examine the blood, but discovered nothing abnormal, as will be seen by the accompanying report:

"*January 21, 1890.* The blood from the finger was dried on a cover-glass, and stained with alkaline methylene blue. Some of the preparations were decolorized in one-per-cent. acetic acid. There was no change in the size or form of the red corpuscles. Occasionally isolated corpuscles were observed, which retained the stain faintly. These forms are probably young corpuscles. The leucocytes were slightly increased in number; otherwise the blood elements appeared normal."

Dr. Smith also sent the following interesting note of a hæmorrhagic disease that occurs among guinea-pigs:

"Among guinea-pigs, kept for experimental purposes, a disease occasionally appears which usually ends fatally and may carry off the greater number of those living together. The disease seems to be due to the exclusive use of dry food, such as grain of various kinds. When the food is changed, and vegetables, fruits, etc., are given, the disease is checked and disappears. That it is a food disease I feel quite certain. The examination of the dead animals reveals, as a rule, extensive subcutaneous and intra-muscular ecchymoses, limited chiefly to the limbs. Occasionally they are found on or in the muscles of the chest and abdomen. The internal organs contain no bacteria."

The characteristic symptoms in this case of peliosis rheumatica are:

Swelling and pain in the large joints, closely resembling rheumatism, but coming and going sometimes within a few hours.

The characteristic ecchymoses of true purpura are

[1] Patient was presented to the Association of American Physicians, May 14, 1890.

present. There are hæmorrhages into the bladder and bowels, but none from the nose or lungs.

Of particular interest in this case was a peculiar hæmorrhage into the true skin—apparently between the epidermis and the true skin—which destroyed the skin by gangrene. The most marked of these ecchymoses were in the skin of the abdomen—two patches, each the size of the palm of the hand, one on the left, the other on the right of the navel. These ecchymoses appeared within half an hour, and were at the beginning perfectly black and painless patches of true gangrene. In a few days a line of demarcation formed, and in due time the dead tissue sloughed, leaving a granulating surface which healed slowly, forming scars which can still be seen.

The boy formerly had a tight phimosis, for which I intended circumcising him, but one of these sloughs appeared on the under surface of the prepuce and cured the phimosis.

Among the symptoms were frequent vomiting and violent pains in the abdomen.

The abdominal pain at times was so violent that I thought there was a peritonitis from a hæmorrhage into the peritoneum, but the absence of tenderness and the rapid disappearance of the pain rendered this view improbable.

The attacks, as stated, are remittent in character; exacerbations occurring at intervals of one or two months. The later attacks have been less prolonged than the earlier.

As to treatment, the medicine that appears to have done the most good is arsenic—and possibly salol given for relief of the rheumatic symptoms.

D. W. PRENTISS, M.D.

WASHINGTON, D. C.

MEDICAL PROGRESS.

Craniectomy.—The Paris correspondent of the *Lancet* (July 19, 1890) writes that at the last meeting of the Academy of Sciences Professor Verneuil called attention to an operation just performed by PROFESSOR LANNELONGUE on a nearly idiotic girl four years old, whose skull was about one-third the normal size. She could not walk or stand without support. M. Lannelongue attributes this condition—microcephaly—not only to the insufficient capacity of the skull but to cerebral lesions caused by pressure, and in the case of the child above referred to he believed that if more space were given to the brain the condition would disappear. Acting on this hypothesis, he made along the median line of the cranium an incision corresponding to the sagittal suture and extending from the frontal to the occipital suture. On the left of the incision he removed a piece of bone about three and a half inches long by half an inch wide and including the entire thickness of the skull. The dura was left intact and the superficial wound was united without drainage. Union took place by first intention. The operation was performed on May 9th, and on June 15th a change in the condition of the child was apparent; she walked, smiled, and had lost much of her previous apathy. M. Lannelongue has quite recently performed a similar though more extensive operation on another child.

Hypodermic Injections of Ether in the Treatment of Neuralgia.—The parenchymatous injection of ether for the relief of neuralgia is by no means a new method of treatment, though it has had but few advocates, and has been practised to only a limited extent. KUMPS (*Revue de Thérapeutique*, June 15, 1890) again brings the method forward as a valuable addition to the therapeutics of neuralgia, and cites a number of cases in which relief followed the injection of equal parts of alcohol and ether into the neighborhood of the affected nerve. Among other cases reported by him are the following: A neuralgia of the shoulder which for two weeks had prevented sleep and had resisted a variety of other methods of treatment, was cured by a single injection. Two cases of sciatica, both of which were much relieved after the first injection. Two cases of facial neuralgia, and three of rheumatic neuralgia of the head were also relieved.

Kumps uses the injections not only in cases of true neuralgia but in rheumatic pains and in torticollis. Two cases of the latter disease were cured by the method, only one injection being required in each case. The amount of the mixture used by the author is 30 minims, and he states that though the pain of the injection is considerable it soon passes away. There is also often some local swelling which can be dissipated by gentle manipulation.—*London Medical Recorder*, July, 1890.

Keen's Methods of Compressing the Subclavian Artery.—All surgeons know the difficulty of maintaining steady and effectual occlusion of the subclavian artery by pressure above the clavicle where the third part of the vessel crosses the first rib, and will welcome the following simple plans devised by PROFESSOR KEEN (*Annals of Surgery*, July, 1890):

A rolled bandage two inches wide is placed above the clavicle over the position of the artery, as ascertained by the finger. The strong rubber strap which accompanies Esmarch's bandage is then passed over the roller above the clavicle, then down the back, between the thighs, and up in front of the chest. The ends can then be held by an assistant, or, better, tied or hooked together. If it is desired to release the artery, the rubber strap is slipped off the bandage: pressure can be renewed as easily. An assistant should stand on the side of the patient opposite to the side of the operation, to steady the strap and bandage.

The advantages of this method are, that it is reliable, that the compression will be maintained, even though the patient should struggle, and that not only is the assistant not tired out, but he has one hand free for other purposes. An Esmarch bandage can, of course, be applied to the arm before compressing the artery.

With the elastic strap of the Esmarch apparatus, Professor Keen found some difficulty in retaining the roller in place over the artery. To obviate this, he has resorted to the elastic *bandage* of Esmarch, which is applied as follows: The tendency to displacement of the roller downward below the clavicle is counteracted by laying the free end of the elastic bandage on the chest, then passing the unrolled end over the shoulder and down the back. If the *strap* is used the natural tendency, when it is placed in position, is to pull on both ends at once, and the upper end being drawn downward tends to displace the roller in the same direction. If

the elastic *bandage* is used, traction being made with the unrolled part of the bandage, over the shoulder *from front to back*, this subclavian displacement is prevented. To prevent outward displacement, the alternate turns of the bandage should be carried under the opposite axilla. By these means the roller is held in place fixedly, and requires no care from an assistant.

The Faradic Current in Uterine Hæmorrhage.—DR. EUGENE BOÉR writes (*Lancet*, July 19, 1890) that though iodoform-gauze tampons, if carefully applied, will usually arrest the flow in menorrhagia, still, cases occur in which this plan does not succeed, probably because the hæmorrhage is due to atony of the uterus. In one case of this kind, that of a girl of eighteen, having tried all the usual internal and local remedies, and the patient having become unconscious from loss of blood, he used the faradic current, which arrested the bleeding in ten minutes. When, three days later, there was a return of the hæmorrhage the method was again used with success. The effect was permanent, for, though the faradization had to be resorted to at the next period, the subsequent one was normal. A similar plan of treatment proved equally successful in the case of a multipara with profuse and intractable menorrhagia. Dr. Boér at first applies the negative electrode directly to the cervix, and, after the arrest of the hæmorrhage, to the perineum, the positive pole being applied with some little pressure to the abdominal wall over the fundus of the uterus.

An Enormous Nasal Polyp.—SCHMIEGELOW (*Medicinske Selskob i Kjobenhavn*) demonstrated, at a recent meeting of the Copenhagen Medical Society, a nasal mucous polyp which was five inches in length and extended through the entire right nasal cavity, prolongations reaching to the edge of the soft palate. The growth was removed with a wire loop, and its point of origin found on the posterior end of the lower turbinal.—*Annals of Surgery*, July, 1890.

Treatment of Chancres by Creolin.—In the *Bulletin Générale de Thérapeutique*, July 15, 1890, BUSQUE, of Brazil, writes a note to Dujardin-Beaumetz detailing his experiences in the treatment of chancres by this means.

His custom is to apply to the sore a solution of the strength of from 12 to 20 parts to 1000, and he believes that the progress of the malady is shortened and relief speedily obtained. Compared to iodoform Busque thinks these solutions of creolin equally serviceable. The best treatment, however, is to combine these drugs, using the creolin solution as a wash and then iodoform as a dressing.

Nephrectomy for Pyonephrosis.—WISHART (*Montreal Medical Journal*, July, 1890) reports two abdominal nephrectomies for hydronephrosis, and draws the following conclusions:

1. That in a large proportion of cases of advanced hydronephrosis, where the tumor fills the abdomen, it is impossible for the average operator to say whether the growth is a cyst of the kidney or an ovarian tumor.

2. That supposing hydronephrosis is suspected, it is not possible to say which kidney is the diseased one.

3. The last two propositions being admitted, it follows that, in all advanced cases, incision in the loin and drainage cannot be advocated, as the surgeon is unable to say which side should be incised.

4. In view of these difficulties in diagnosis, it would seem preferable to make an incision in the linea alba, completing the diagnosis with the hand. If the case be a cyst of the kidney, carry the incision upward and complete the operation by enucleating the tumor.

5. This operation is suitable alike for hydro- or pyonephrosis, the danger, of course, being greater in the former.

6. That abdominal nephrectomy by the median incision is a difficult operation, owing to the high position of the tumor and the close relations of the aorta and vena cava, the large size of the renal vessels, and the fact that the tumor is behind both layers of the peritoneum.

7. If a correct diagnosis could be made, abdominal nephrectomy by incision along the linea semilunaris is probably the best operation, but it is not possible to remove very large cysts by incision in the loin.

8. In the case of a weak patient, or one advanced in years, supposing the abdomen to have been opened, the safer procedure might be to open the cyst and drain from the loin. This operation is safer than nephrectomy, but it usually leaves a permanent fistula.

9. It is advisable, in completing the operation of abdominal nephrectomy, to secure drainage by making an opening in the loin.

Prescription for Bronchitis.—According to the *Southern Medical Record*, the following is used by JANEWAY in the treatment of bronchitis:

℞.—Syrup of tolu, Syrup of wild cherry, Tincture of hyoscyamus, Compound spirit of ether, Water — equal parts.

Dose, a teaspoonful.

Prevention of Linea Albicantes of Pregnancy.—F. W. LANGDON (*Cincinnati Lancet-Clinic*, August 9, 1890) believes that the linea albicantes of pregnancy can be prevented by daily inunctions of the abdomen with olive oil, followed by gentle friction with the hand. The inunctions should begin at or before the fourth month of pregnancy, bearing in mind that prevention, not cure, is the object.

[This method of treatment, while by no means new, is not used to the extent that it should be. It adds to the comfort, particularly of primipara, diminishing the sense of distention which is frequently very annoying.—ED.]

Sarcoma of the Breast.—DR. JOSEPH SCHUOLER has published a valuable contribution (*Basle Inaugural Dissertation*) to our clinical knowledge of sarcoma of the female breast. The following are the most important of his conclusions, based on a study of forty-one cases of the disease:

1. Sarcomata constitute about 10 per cent. of all new growths of the female breast.

2. The tumors make their appearance most frequently between the ages of thirty and fifty years.

3. Hereditary influence cannot usually be detected, and there is apparently no causal relation between the function of the gland and the growth.

4. Traumatism, however, seems to play some part in causation.

5. The left mamma is more frequently attacked than the right.

6. As a rule, the first symptom noticed is gradual enlargement of the organ; pain in the early stages is very exceptional. The consistence of the tumor varies from hard to semi-fluid, and it may reach the size of an adult head.

7. Medullary sarcoma cannot be distinguished from medullary cancer until after extirpation.

8. The treatment should be complete excision. Of forty cases operated upon, recurrence took place in 25 per cent. Recidives usually occur within a year after operation, but have been observed as late as nine years after excision.—*Provincial Medical Journal*, Aug. 1890.

Etiology of Tuberculosis of the Intestine.—DR. MARIN ROUSSEFF (*Dublin Journal of Medical Science*, August, 1890), after an exhaustive study of the post-mortem condition of the stomach and intestines in cases of phthisis, formulates the following:

1. Intestinal tuberculosis in chronic pulmonary tuberculosis is caused by the state of the stomach. This organ modified in its structure by interstitial inflammation or by amyloid infiltration can no longer discharge its functions normally, and hence does not act as a barrier against the invasion of the tubercle bacilli.

2. A capital point in the treatment of phthisis should be attention to the state of the stomach; preventing pathological alterations if possible, or treating them if they are present, for intestinal tuberculosis hastens the course of pulmonary tuberculosis.

3. Men more frequently than women are attacked by intestinal tuberculosis, probably because they lead less natural lives, and in consequence are more prone to gastric derangements.

4. The age of the patient, the amount of pulmonary involvement and its duration have but little influence in the causation of intestinal tuberculosis.

5. Pulmonary tuberculosis *per se* cannot excite a gastritis which would lead to tuberculosis of the intestine.

Iodoform and Creasote as an Inhalation in Phthisis.—The following inhalation is recommended by BRUNTON in the treatment of phthisis:

℞.—Iodoform	24 grains.
Creasote	4 minims.
Oil of eucalyptus	8 "
Chloroform	48 "
Alcohol, Ether }	equal parts to make ½ ounce.

To be used in a Robinson's inhaler.—*Virginia Medical Monthly*, August, 1890.

Suppository for Cystitis.—

℞.—Iodoform	2 grains.
Extract of belladonna	½ grain.
Cacao butter	45 grains.

Pass this well into the bowel, and morning and night inject into the rectum hot water. If any inflammation of the urethra occurs or is present 1 grain of terpine or salol may be given in pill twice a day.

Permanganate Treatment of Smallpox.—GAWALOWSKI reports the successful employment of baths, colored rose red by the addition of potassium permanganate, in the cure of the eruption of variola and for the reduction of excessive high temperature. The general state under these circumstances was found to improve, the pustules looked better, and the progress of the case went on rapidly toward recovery without any relapses.

Treatment of Laryngeal Phthisis.—HUNT, in the *Annales des Maladies de l' Oreille* for December, 1889, considers the treatment of laryngeal phthisis briefly, as follows: In the early stages, which are always accompanied by anæmia, he prescribes inhalations of oil of tar or creasote, and local applications of chloride of zinc or iron, believing that nitrate of silver is useless at this period. When the catarrhal process is active he uses sedatives or stimulants, as may be indicated, inhalations of mineral astringents, perchloride of iron or an atomized spray of a 1-to-2000 of corrosive sublimate. For the quieting of the cough he thinks the oil of eucalyptus is the best remedy and prefers iodol as an insufflation to all other substances, such as iodoform and lactic acid. The latter he thinks produces pain and inflammation, and increases the cough. When stenosis and œdema of the larynx come on he believes in scarification of the mucous membrane, and also in curetting the surface which is diseased. When stenosis threatens life tracheotomy may be needed.

Ointment for Pityriasis Versicolor.—

℞.—Acid salicylic	1 drachm.
Precipitated sulphur	5 drachms.
Vaseline	3 ounces.

Make into an ointment, and before using place the affected part in hot water for several hours, adding one ounce and a half of powdered borax to each gallon of water used. The skin should be well dried before the salve is applied.—*L' Union Médicale.*

Suprapubic Puncture of the Bladder.—According to DR. DENEFFE (*Journal de Médecine de Paris*), the dangers of suprapubic puncture of the bladder in retention of urine are exaggerated, and the operation should not be considered a last resort. He describes a case of retention due to enlarged prostate, and in which the catheter could not be passed, that was punctured seventeen times without harmful effects. After the seventeenth puncture the canula was permitted to remain in place, and ten days later micturition took place through the urethra. Nevertheless the canula was not removed for twenty-nine days. The fistula closed in four days and the patient permanently recovered. Dr. Deneffe has performed the operation on 301 patients with a mortality of 2½ per cent. He believes that sudden retention in cases of stricture or of enlarged prostate is due to spasm of the posterior part of the urethra, that the spasm can be relieved only by removing the urine, and that catheterizing increases the spasm.—*Provincial Medical Journal*, August, 1890.

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THE EDUCATION OF LAWYERS AND PHYSICIANS.

THE MEDICAL NEWS has just received a copy of an address delivered by GEORGE GLUYAS MERCER, LL.M., J.C.D., before the Alumni Association of Haverford College, Pennsylvania, in June, 1889, which is entitled the "American Scholar in Professional Life." In this address its learned author, by a series of quotations taken haphazard from various medical writers, attempts to show that the average medical man of to-day is a mental nonenity possessing so rudimentary an education as to make him little better than a laborer. He also adds his voice to the old cry, that the medical schools of this country are at fault in that they permit men to graduate who do not possess degrees in arts, and fail to insist on a four or five years course, quoting the schools of Germany and England as instances where preliminary study and a course of four or five years are required. While the entire address is most pessimistic in tone we cannot let it pass without at least pointing out some of its faults and fallacies.

No one denies that medical education in the United States is, in the majority of cases, utterly inadequate, and while it is not half so careless in many cases as is that of the law, the greater responsibility of human life, perhaps, makes the teaching worse than the informal courses taken by aspirants for legal honors. Many years have elapsed since a man has been admitted to the ranks of the medical profession simply because he had practised or studied in another man's office; yet in the law this is a most common thing, even in the great cities, where students learn how to draw up a deed or will and little of the real nature of the law. Lawyers' offices are generally notorious loafing-places for young men whose only aim is to learn enough law to pass an entrance examination to the bar. Such individuals perhaps "read law," but never obtain instruction concerning it from a lecturer or teacher. In this much the position of the law to medicine, so far as education is concerned, is that of the individual who must "first cast out the mote in his own eye." In regard to the assertion that a longer time is required abroad than in this country for medical education, qualifying information should have been given. In the best schools in America the student often attends lectures for seven, eight, or nine hours a day, while in England he rarely hears more than four lectures, and most commonly attends but one or two, amusing himself as he pleases during the rest of the twenty-four hours. In Germany the same condition of affairs exists, and in most cases the first two years of so-called study are spent in the beer-garden, or in the pursuit of some still less intellectual enjoyment.

These are mere comparisons, however, of little importance. The question which Mr. Mercer has raised he has failed to answer, or even to offer an idea as to the remedy for the iniquities which he asserts are present. And this is not surprising, in view of the fact that he has not been a teacher in a medical school, and in consequence has but little idea of the expenses connected therewith, independent of the professors' salaries. We doubt if any more expensive educational institution can be found than a well-equipped medical school, pursuing the highest course possible, and in consequence money must be had. The State and nation will not give it, as they do in Germany, nor has America reached an age in which by the accumulations of years the hospitals and universities are richly endowed, as in England. Educational institutions are generally the result of private enterprise, or are so meagrely fed from the State treasury as to be on the verge of inanition. There are, in consequence, but two changes which will remove all ignorance from the medical profession—namely, an improvement in mental calibre

throughout the race, with the elimination of all stupid persons, or, what is more practical, the arousing of the people to the fact that their lives are dependent upon proper medical attendance, which can only be obtained by State contributions to support the medical schools, or by insisting that no one who cannot afford to spend at least four years at college shall attempt to enter the ranks of the profession. If physicians as a class are ignorant, it is because the supply of knowledge, like coal and iron, is always largely governed by demand, and the country doctor can no more invest five years' income in medical centres than the owner of a country store can carry the finest silks instead of the cheapest calicoes.

Mr. Mercer repeats the time-worn assertions that we have an excessive growth of doctors as compared to other countries, but neglects to state that the doors of the law are equally wide open, and that the proportion of lawyers to the population is largely in excess. The one-sided character of the legal mind is, however, thoroughly represented by the closing words of the lecturer in his attack on medical illiteracy, for he asserts that medicine does not necessarily train the mind, in that it is not a science, because "the physician can never know beforehand the precise effect which a drug will produce in a given case, or whether a particular complication will occur in the course of a familiar fever." This lack of knowledge on our part can only be excused when the learned gentleman remembers that as God did not make us all alike, the same rules cannot apply with equal force to each individual. The "uncertainty of the law" depends upon the same variations in mental qualities as the uncertainty of medicine, with the addition that the perverted mental activity of an ignorant judge may give birth to a decision which will at least stand as an important precedent a thousand miles away, or years afterward in a similar case.

Last of all, we are accused of "narrow-mindedness" if we fail to consult with homœopaths, and the author of the paper here loses sight of the very first principle which the law is supposed to uphold, namely, honesty and equity; for if a regular physician consults with a true homœopath the result must be barren, or if the homœopath be one in name only and not in deed, he is a fraud and charlatan with whom a reputable physician has no more right to confer than has a respectable lawyer a desire to take as his colleague a member of the bar whom he regards as devoid of honesty and a disgrace to his profession.

The law deals with facts, medicine with the ever-varying personal equation, an equation generally utterly unknown. Is it not time for the pot to stop calling the kettle black, and for both professions to unite in an effort which will arouse popular feeling to such an extent that our educational institutions will not be dependent upon the whim of a few individuals who may be too lazy, too stupid, or too poor to enter the sacred precincts of any learned profession except through a side door. The people of the United States have provided every child with schooling, and enacted laws preventing illiteracy among those who deal in stoves, or wood, or food, yet they calmly turn their backs, and utterly ignore a lack of knowledge in the individuals who are the only barriers between their dear ones and the grave. The endowment of a hospital is a noble charity, but the endowment of a medical school not devoted to the filling of the professors' pockets, but to the advancement of medicine, is far nobler, since for every moment of suffering saved in a ward, hours of grief, pain, and poverty may be avoided by the skill of thoroughly qualified physicians scattered here and there among the millions of people inhabiting this continent.

IODINE IN OBSTINATE VOMITING.

EVERY physician who treats his cases intelligently must recognize that he meets with vomiting arising from two opposing states of the stomach or general system. In one case inflammation or irritation of the gastric mucous membrane may exist, while in the other depression and a depraved functional activity prevent the organ from retaining food by some nervous reflex which we do not understand. The vomiting of inflammation may be controlled by aconite in full dose; the vomiting of depression by small or stimulating doses of ipecacuanha.

Within the last few months the tincture of iodine has been highly recommended by a number of writers in the current journals, and they have one and all pointed out that its sphere is in the forms of vomiting due to depression of the stomach. Thus ROQUES (*Gazette médicale de Liege*) has employed this drug in the vomiting of tuberculosis in its early stages with good results, and recommends its use in chronic gastritis and simple gastric ulcer. He also thinks it of value in the vomiting of pregnancy, and in chlorosis. The drug is not very disagreeable to

take, and produces a sensation of warmth in the stomach which, in some cases, is pleasant to the patient. The tincture should be given, adding ten drops to four ounces of water, one-third of which should be taken immediately after the meal which produces the nausea. Very rarely does this use of the drug produce disagreeable after-effects, but its persistent employment may cause coryza or iodism.

REVIEWS.

ESSENTIALS OF ANATOMY AND MANUAL OF PRACTICAL DISSECTION. By C. B. NANCREDE, M.D. Third edition, revised and enlarged. Colored plates and woodcuts. Philadelphia: W. B. Saunders, 1890.

THE third edition of Nancrede's Anatomy which has just appeared, is a manual of usefulness and value. The publisher has greatly added to the book by the introduction of a large number of beautifully executed plates, which were selected by Dr. Edward Martin, owing to the author's absence from Philadelphia. We have never before seen a book which contained so much in a small space, and yet served as an atlas, quiz-compend, and text-book at one and the same time, which was not so far removed from the grasp of the ordinary student by its cost as to be useless as an aid to general anatomical study. Three editions in less than two years is a success to be envied, and we doubt not that the sales will be doubled during the next year.

CORRESPONDENCE.

"MENTHOL IN DISEASES OF THE AIR-PASSAGES."

WE have been requested to publish the following remarks made by Professor E. Fletcher Ingals in the discussion of Dr. S. S. Bishop's paper on "Menthol," read before the Illinois State Medical Society (see THE MEDICAL NEWS, July 26, 1890):

"I have had some experience with menthol in the last four or five years, having used it considerably, but I am sorry to say, I cannot corroborate Dr. Bishop's statements in all respects. He recommends strong solutions of menthol, whereas, if I should use such solutions, I would find that, as with any other irritant, the patient would be made worse. I find that hardly more than two or three grains of menthol to the ounce of liquid albolene will be tolerated by the majority of patients. Of course, some patients will stand more, just as one will tolerate bichloride of mercury better than another. I fear you will not obtain the good results from the use of this drug that would be expected from a consideration of the paper of Dr. Bishop, although the author's results have been excellent.

"The use of menthol vapor, as an inhalation, is a different matter, and used in this way others may have results similar to those recorded by the author. I presume this drug does not act very differently from other irritants, such as iodine, sulphate of zinc, or anything else that stimulates the parts. The result is essentially the same whatever drug is employed, providing we get just the right amount of stimulation. Occasionally, perhaps once in four cases, menthol, properly applied, will relieve congestion of the mucous membrane for a considerable length of time, but in the majority of cases it will not do so. In the cases relieved, the swelling disappears and the nose remains comparatively free for an hour or two, but it subsequently stops up, just as it would if cocaine had been employed. In nearly all cases, if used in the strength, even of one and a half or two per cent., the patients are made worse; at least this has been my experience.

"Dr. Bishop spoke of menthol as a good remedy for stopping discharge, and so it is in some cases, but if used a little too strong, the discharge is increased by it, as by other remedies.

"I was glad to hear him speak of the use of the drug in affections of the Eustachian tube and middle ear. I see but little of these affections, as I do not treat diseases of the ear except when they come directly from throat trouble that requires my attention. But in those cases that I do treat I have latterly used about a 2-per-cent. solution (ten grains to the ounce) of menthol in liquid albolene, thrown up behind the palate. I have no difficulty in most cases in getting this directly into the Eustachian tubes. For this purpose I use the spray tubes which are known as Davidson's No. 66, with a tip half an inch long, which can be carried above the point where the palate is drawn firmly against the pharyngeal wall, though with a shorter tip this cannot be done. With a pressure varying from fifteen to forty pounds, which can be regulated at pleasure, the menthol solution can be forced directly into the Eustachian tube, if the nose is held during the application. This pressure, however, is not applied to the middle ear, for the palate will not resist any great force, and the vapor passes backward into the mouth before the pressure gives the patient discomfort. For this application I regulate the pressure according to the sensitiveness of the ear.

"In hay-fever the vapor of menthol gives a little relief to some patients, but, unfortunately, it is not much.

"In laryngeal phthisis this drug has been used for a number of years with the same enthusiasm that has characterized the use of iodoform and many other drugs; and we find reports of many cases of this affection said to have been benefited by menthol. But when we apply it in laryngeal tuberculosis, we find that although there is a little relief at first, an hour or so afterward the patient feels as badly as ever. There are a few cases of laryngeal tuberculosis that are benefited while menthol is being used, but any remedy that we may apply to the larynx, be it menthol or what not, makes very little difference in the actual condition of the parts, unless, by some means, the constitutional disease be checked. Then, and only then, the larynx may be expected to heal; though local applications often appear to hold the disease in check for a short time, and, in so far as they render deglutition easier, they are beneficial.

"Several years ago, at a meeting of the American Laryngological Association, some gentleman spoke of wonderful results obtained in laryngeal tuberculosis from the application of iodoform, which was said to have a specific influence in healing ulceration. At that

time I questioned this so-called specific influence and doubted whether the drug accomplished much, if any, good. To-day, I think, all laryngologists are in accord with the views I then expressed. Menthol in the treatment of this disease has had a history similar to that of iodoform, but thus far it has been found much less useful than the latter."

LONDON.

A Medical Degree for London Students; the Hospitals Committee; the Grievances of Army Medical Officers; Infant Life Insurance; Transplantation of the Thyroid in Myxœdema.

To the Editor of THE MEDICAL NEWS,

SIR: The scheme for the reconstitution of the University of London is still the burning question of the hour, though only a comparatively small number of people take an interest in it, and fewer still really understand it in all its bearings. The agitation originated with the teachers in the Metropolitan schools, who felt that the great majority of students in London had not as fair an opportunity to obtain a degree as they would have in any of the other centres of medical education in the United Kingdom. The original idea was to found a new university on a different plan from the University of London. When the agitation had reached a certain pitch the Government appointed a commission to investigate and report on the subject. Before this body all who objected to the creation of a new and separate university were well represented, and were successful in their efforts, for the Commission reported in favor of altering the regulations of the existing university so as to meet the demands of those who desired a new university. A scheme, with several subsequent modifications, was submitted by the Senate of the University of London, to the licensing bodies, and met with support as well as opposition, and on the whole it seems likely that the latter will prevail.

There are several reasons why it should fail. As at present constituted the degree of the University of London is open to any candidate, no matter in what part of the country he has been educated. Under the new scheme, education *in London* would be compulsory, which is manifestly unjust to the provincial schools, and yet absolutely necessary if the existing university is to satisfy the essential features of the demands of those who originated the agitation. This creates a deadlock which is quite certain to upset the whole scheme, and the sooner the Senate of the University of London recognizes this fact and gives up its oppcsition to the creation of a new university the sooner will this question be settled. There are other very thorny problems connected with the subject, but the most important matter is that there should be a degree for the attainment of which a certain amount of study in London should be compulsory, and this difficulty can only be met by the establishment of a new university.

The Special Hospitals Committee of the House of Lords is probably by this time thoroughly ashamed of itself and wishing to be released from its undertaking. About twenty meetings have now been held, and, as far as can be judged, the only function of the Committee is to afford one hospital an opportunity to reveal mistakes in management, a proceeding which cannot possibly have any useful effect. Thus far none of the leaders have come forward to give evidence, but inasmuch as there is no likelihood that the meetings of the Committee will have any practical result, this is perhaps not a matter of much moment. The two grievances which have been chiefly aired are, that the hospital appointments are mostly restricted to men who have passed the higher examinations at the College of Physicians and Surgeons here, and are not open to similar qualifications from Scotland or Ireland, and that the out-patient departments damage the general practitioners. In regard to the former point there is not the least likelihood of any change being made, and in regard to the second, the grumblers have not at present made out a case.

The grievances of army medical officers have been much debated of late, and at the instance of the Royal College of Physicians all the leading medical corporations sent a deputation to the Secretary of War, Sir Andrew Clark acting as spokesman. He defined the chief grievance to be the vexed question of rank; it was, he said, that the medical officers of the army having military duties, military responsibilities, and living in a military atmosphere, had not a definite military rank, and that men in other departments of a like constitution had that rank. He made a strong point when he remarked that military rank had, not long since, been granted to the conductor of one of the regimental bands, as this act proved that combatant duties were not essential qualifications for the possession of a military title. He also mentioned the fact that military titles were given to army medical officers in some countries, notably in America, and that no difficulties had been found to arise in consequence. It remains to be seen whether anything will result from the meeting; it is well known that the military authorities are strongly opposed to it, and, further, medical officers in the army have hitherto declared that they did not want military titles. I confess it seems to me hardly possible that the granting of a title will have the effect of converting the service from being very unpopular to a position of popularity, and that some more real change will have to be made if good men are to be attracted to it.

The Bishop of Peterborough's well-meant efforts to reform the law upon the insurance of children do not seem likely to meet with the success which, in my judgment, they deserve. We are told that we must not discourage thrift, and that if we place obstacles in the way of parents putting by something for a rainy day, we will tend to discourage thrift. But it seems to me that until a child is old enough to become a breadwinner there should not be any insurable interest in its life, beyond the amount necessary for funeral expenses, for which purpose insurance is most proper. But this does not meet the views of certain self-constituted philanthropists in the House of Commons, and is in consequence not approved, so that this direct incentive to infant murder will be allowed to go on uncontrolled, and one might almost say directly sanctioned. It is no mere fancy that infants are murdered for the sake of the insurance money, for it was proved beyond doubt a year or two ago by some very gross instances, but the chief culprit died before she could be brought to trial.

Mr. Victor Horsley advocated some few months ago

transplantation of the thyroid in cases of myxœdema and sporadic cretinism. He has returned to the subject lately, and has discovered that a Dr. Bircher anticipated him, at any rate so far as a practical experiment is concerned. In Dr. Bircher's case symptoms of myxœdema having supervened upon removal of the thyroid, he transplanted a portion of a normal thyroid into the abdominal cavity, with the result that the myxœdematous symptoms in great measure disappeared. Some months later a second transplantation was made, again with distinct improvement.

NEW YORK.

To the Editor of THE MEDICAL NEWS,

SIR: As the season in which typhoid fever is most prevalent is at hand, I am reminded of an epidemic of that disease which occurred some time ago in the City Insane Asylum on Ward's Island. All the ordinary sources of infection were quickly excluded, and considerable investigation was necessary before it was discovered that the disease was confined to those patients and their attendants who were permitted to spend much of their time roaming about the northern end of the island. Further inquiry elicited the fact that these people had been accustomed to quench their thirst at a stream situated but a short distance from, and at a lower level than, a small cemetery which had been used at one time for the burial of the typhoid-fever patients from the Emigration Hospital. Such burial places are a constant menace to health, and the question—"How can the city best dispose of its dead? is one of growing importance. The Potter's Field has been removed from place to place: at one time it was on the site now occupied by the Woman's Hospital; at another time it was on Ward's Island; and still later it was transferred to a much more remote point—Hart's Island. The latter place has already a large almshouse population contiguous to this vast resting-place of "the unclaimed dead;" and very little digging on Ward's Island will furnish ample proof of the use formerly made of the land. Certainly the sanitary science of to-day calls for a better state of things, and Dr. A. E. Macdonald, the Superintendent of the City Insane Asylums, recognizing this need, is urging the introduction of cremation as a means of disposing of at least a large number of the bodies now sent to the Potter's Field.

The increased water-supply following upon the completion of the Croton aqueduct has made it possible this summer for many a filthy water-closet in our high tenements to be properly flushed; and if some of this large quantity of water could only be used in sprinkling our dusty streets, there would probably be much less pharyngitis and conjunctivitis among us.

The Board of Health has just published its report for the last year. Among other items of interest I notice that over six thousand quarts of adulterated milk were destroyed, and over one million pounds of fruit and food were condemned and seized. This is a good showing for the Board of Health, but "Little Italy" must have groaned in spirit at being thus ruthlessly deprived of its staple articles of diet. The death-rate for 1889 was 25.13 per 1000, not including stillbirths; and among the 122 deaths reported as resulting from surgical operations, 33 followed laparotomy.

There has been much talk during the last few years about the bad effect upon the public health of the frequent digging up of the streets, required to lay the electric subways and steam-heating pipes, and it has been pretty generally believed, both by the laity and the profession, that such disturbances of the soil are accompanied by malarial manifestation in the neighborhood. If by "malarial" we mean only *bad air*, it is certain that the term is correctly applied, for the freshly uncovered earth, saturated with illuminating gas, gives out a most unpleasant stench. But Dr. Charles N. Dowd, of this city, who has been making a careful bacteriological study of this subject, tells us there is very little reason to believe that genuine malaria is materially increased in this way. He found no marked difference in the bacteriological contents of a gaseous and non-gaseous earth, and the effect of the upturning of the earth without reference to the gas, was to increase markedly the amount of dust, but to augment only moderately the spread of bacteria. He believes that the organism which causes malaria belongs to a different class from those which he studied. The result of uncovering so much ill-smelling earth is chiefly impaired digestion and a feeling of malaise. Although Dr. Dowd's bacteriological research undoubtedly leads to this conclusion, clinical evidence is not wanting to show that malaria is more common after such upturning of the soil; and since the railroads have been making some changes in Morrisania the people there have become painfully aware of this relation between digging and malaria.

NEWS ITEMS.

Medical Examiners of New Jersey.—Governor Abbett, on August 19th, appointed the following physicians, who are to constitute the New Jersey State Board of Medical examiners:

Regular physicians: Dr. William P. Watson, Hudson County, to serve for two years; Dr. George W. Brown, Monmouth County, for three years; Dr. W. L. Newell, Salem County, for one year; Dr. Henry S. Wagner, Somerset County, for one year; and Dr. Hugh C. Hendry, Essex County, for one year.

Homœopathists: Dr. A. Uebalacker, Morris County, to serve for three years; and Dr. A. H. Worthington, Mercer County, for one year.

Eclectic: Dr. Eugene Tiesler, Essex County, to serve for one year.

The Board will meet for organization on Tuesday, September 2d.

A Supposed Case of Cholera in London.—According to Press dispatches from London, a sailor on the steamship "Duke of Argyle," from Calcutta, was landed with Asiatic cholera, on August 17th.

Virchow's Welcome to American Physicians.—Virchow is reported to have extended the following cordial welcome to the American delegates to the International Congress: "We in Germany have great admiration for the American medical world, which to-day excels in

surgery, midwifery, and dentistry. I can say for myself and colleagues that the American contingent will be honored and heartily welcomed. We admire their scientific zeal and begrudge them their extraordinary skill, and shall try to imitate their push and energy. I find these latter virtues in the American student as well as in the finished scientist. My German students generally spend a few semesters deciding what line of medicine they shall follow, while the American student walks into the arena with a fixed purpose and an indomitable determination to accomplish it. This is why your men secure the laurels before their hair turns gray. My friend, Dr. H. Wood, of Philadelphia, will be the speaker for the Americans at the coming Congress. He is sure to do himself and the great city and country from which he comes high credit."

American Public Health Association. — The American Public Health Association wlll hold its eighteenth annual meeting December 16, 17, 18, and 19, 1890, at Charleston, S. C. The following topics for discussion have been selected by the Executive Committee: Sanitary Construction in House Architecture, including heating, lighting, drainage, and ventilation; Sewage Disposal; Maritime Sanitation at Ports of Arrival; Prevention and Restriction of Tuberculosis; and Isolation Hospitals for Contagious and Infectious Diseases. Papers on various sanitary and hygienic subjects will also be read.

Obituary.—DR. WILLIAM BRODIE, of Detroit, who died July 31st, was a man of national reputation, having been president of the American Medical Association in 1886, as well as of his State Medical Society in 1875. He was born at Frawley Court, England, of Scottish parentage, July 28, 1823. He received his education in this country, graduating in 1850, from the College of Physicians and Surgeons of New York. He settled in Detroit nearly forty years ago, and became one of the best known of its citizens, winning high esteem both socially and professionally.

——DR. J. W. HERON, one of the most prominent medical missionaries in the East, died at Seoul, Korea, August 1st, from dysentery. He was the superintendent of the Royal Hospital at the Korean capital and enjoyed the confidence of the king and of the foreign community.

——GEORGE PIERCE BAKER, M.D., died at Providence, R. I., August 2d, of cancer of the neck and throat. Dr. Baker was born in 1826, at Rehoboth, Mass. He entered Amherst College in 1846, but remained there only two years. His degree in medicine was received from the Harvard Medical School in 1851. He began practice at once in Providence, where he remained throughout the remainder of his life. He was a Fellow of the Rhode Island Medical Society for thirty-nine years, and of the Providence Medical Association nearly as long. He was for two years a vice-president of the former Society, and for nine years a member of its Board of Censors. For several years he was a visiting physician to the Rhode Island Hospital, and more recently one of its consulting staff. During the War of the Rebellion he served as Surgeon on the Peninsula, until prostrated by congestive chills which permanently impaired his health. Dr. Baker was an unpretentious but very thoughtful man. He was a close observer at the bedside, and his wise and kindly advice to the many younger men who called him in consultation was always most valuable. In 1859 he married Miss Lucy D. Cady, of Providence, who died in 1883. He left an only son, who bears his father's name, and is an instructor at Harvard College.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 12 TO AUGUST 18, 1890.

MCCREENY, GEORGE, *Captain and Assistant Surgeon.*—The leave of absence for seven days, granted by order No. 84 (Fort Warren, Mass.), August 13, 1890, is hereby extended fifteen days. —*S. O. 193, Headquarters Division of the Atlantic, Governor's Island, New York City*, August 15, 1890.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING AUGUST 16, 1890.

WALES, P. S., *Medical Director.*—Detached from Medical Examining Board and will resume present duty at the Museum of Hygiene.

AMES, H. E., *Passed Assistant Surgeon.*—Ordered as member of Medical Examining Board in addition to present duty.

SAYRE, J. S., *Passed Assistant Surgeon.*—Detached from Navy Yard, New York, and ordered to the U. S. S. "Ranger."

NORTH, J. H., Jr., *Assistant Surgeon.*—Ordered to the Navy Yard, New York.

BARBER, GEORGE H., *Assistant Surgeon.*—Detached from the U. S. Receiving-ship "Vermont," and ordered to the "Pensacola."

VON WEDEKIND, L. S., *Assistant Surgeon.*—Detached from the U. S. "Pensacola," and ordered to the "Vermont."

AUZAL, E. W., *Passed Assistant Surgeon.*—Ordered to temporary duty at the Naval Academy to examine candidates.

FITTS, H. B., *Passed Assistant Surgeon.*—Detached from the U. S. S. "Pinta," to proceed home and wait orders.

STINE, E. P., *Passed Assistant Surgeon.*—Detached from the U. S. S. "Independence," and ordered to the "Pinta."

WHITFIELD, J. M., *Assistant Surgeon.*—Detached from the Monitors, and ordered to the Naval Hospital, Norfolk.

AYERS, JOSEPH, *Surgeon.*—Ordered to the Naval Academy, to examine candidates for admission.

BRIGHT, GEORGE H., *Surgeon.*—Ordered to the Naval Academy, to examine candidates for admission.

SMITH, GEORGE T., *Assistant Surgeon.*—Detached from the Naval Hospital, Norfolk, and ordered to the U. S. S. "Independence."

WHITE, S. S., *Passed Assistant Surgeon.*—Detached from Marine and ordered to the Naval Rendezvous, San Francisco, Cal.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FROM JULY 26 TO AUGUST 12, 1890.

SAWTELLE, H. W., *Surgeon.*—Granted leave of absence for fifteen days, August 8, 1890.

WHEELER, W. A., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, August 5, 1890.

CARMICHAEL, D. A., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, August 2, 1890.

PECKHAM, C. T., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, July 28. 1890

AMES, R. P. M., *Passed Assistant Surgeon.*—Granted leave of absence for fourteen days, August. 1890. To proceed to Shreveport, La., as inspector, August 5, 1890.

KALLOCH, P. C., *Passed Assistant Surgeon.*—Granted leave of absence for seven days, July, 1890.

PERRY, J. C., *Assistant Surgeon.*—To proceed to Wilmington, N. C., for temporary duty, July 31, 1890.

SMITH, A. C., *Assistant Surgeon.*—Granted leave of absence for thirty days, August 11, 1890.

YOUNG, G. B., *Assistant Surgeon.*—Leave of absence extended twenty days on account of sickness, August 2, 1890. Upon expiration of leave, to proceed to New Orleans, La., for temporary duty, August 8, 1890.

STIMPSON, W. G., *Assistant Surgeon.*—When relieved at Buffalo, N. Y., to proceed to Norfolk, Va., for temporary duty, August 5, 1890